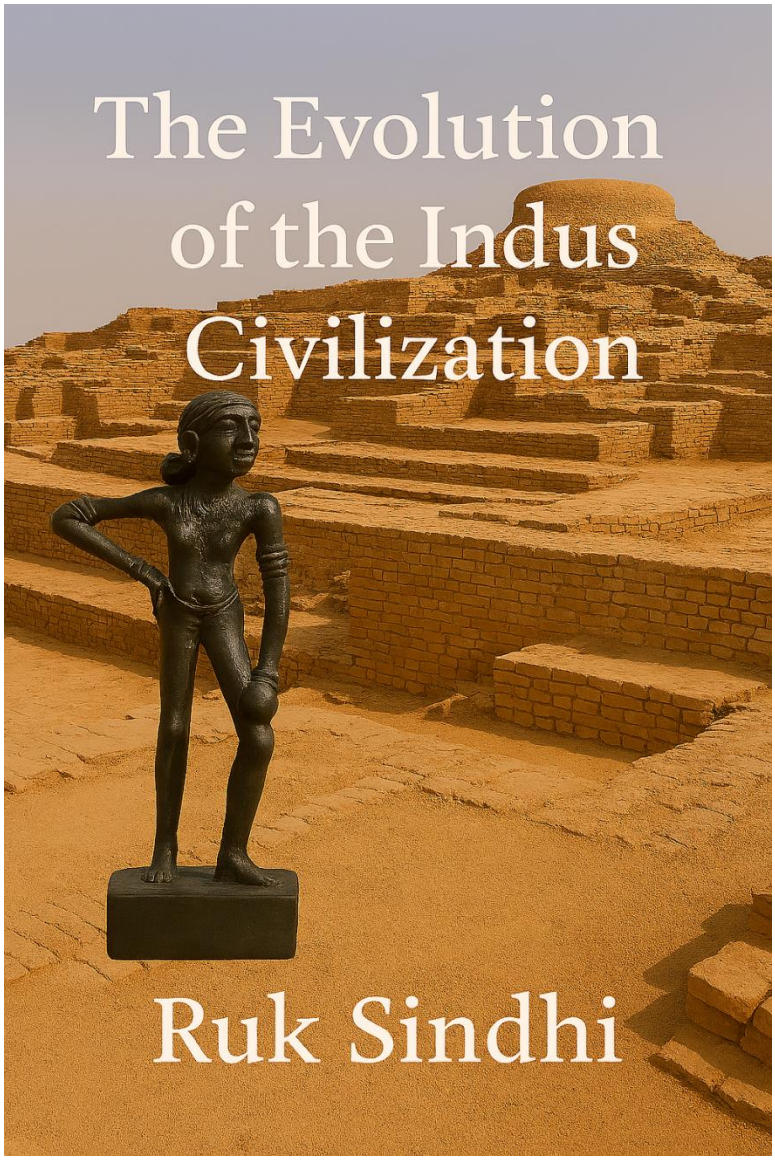
The Evolution of the Indus Civilization
Ruk Sindhi

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Preface

To this day, no comprehensive history of Sindh has been written in the Sindhi language on sound scientific foundations. Despite advances in modern historiography, little progress has been made in presenting Sindh's past through the lens of contemporary research. Most people are still taught outdated colonial-era theories—formulated some 80 to 90 years ago—about the Indus Valley Civilization.

The dominant narrative still claims that the Indus civilization was created by the Dravidian race, and that its downfall was caused by invading "Aryans" from Central Asia, who supposedly destroyed its cities and displaced its people to southern India. Recent scholarship, however, has thoroughly discredited these claims. The notion of a superior "Aryan race" was first advanced by Joseph Arthur de Gobineau in 1855 and later popularized by Max Müller, who tied language

and race together in what became the “Indo-Aryan theory.” Rooted in 19th-century European racism and colonial ideology, this theory provided a convenient justification for imperial domination. When European archaeologists excavated Mohenjo-daro and Harappa, they found it difficult to accept that the land they ruled could once have been home to such an advanced civilization. Hence, the myth of an Aryan invasion was fabricated to diminish the achievements of the region’s original inhabitants.

Modern research has rejected this view. Genetic studies published in the *American Journal of Human Genetics* by scientists such as Gyaneshwar Chaubey and Dr. Kumarasamy Thangaraj, with support from Tartu University in Estonia, have provided evidence against the Aryan invasion hypothesis. Archaeological and anthropological findings also confirm that the Indus Valley people were neither Aryan invaders nor Dravidian migrants, but the indigenous ancestors of the Sindhi people themselves.

The term “Arya,” in fact, did not denote a race, tribe, or nation. In the Indus Valley and later in Vedic tradition, it referred simply to cultivators or “noble people.” Farmers—symbols of fertility and abundance—were called Arya, while non-farmers were “non-Arya.” In Sanskrit too, *Arya*

signifies nobility or honor, not ethnicity. The myth of an Aryan invasion was therefore a colonial fabrication without scientific basis.

This book seeks to present Sindh's past from the geological origins of its landmass, through the rise of Mohenjo-daro, to the decline of the Indus Valley Civilization. It draws upon geology, archaeology, anthropology, linguistics, and genetics. Geological studies show that Sindh's land emerged from the Tethys Sea around a billion years ago, with evidence of life dating back 60 million years. Anthropological research indicates that the earliest traces of humankind are found in the Indus Valley, making it one of the cradles of human evolution. Fossil remains such as *Ramapithecus* and *Sawapithecus* discovered in the region suggest that humanity's earliest steps may have begun here.

Linguistic evidence also reveals that the proto-Sindhi language was the tongue of the Indus people. Its influence is found in Dravidian languages like Tamil, Telugu, and Kannada, and traces even appear in Mesopotamia and Babylon through ancient trade contacts. Contrary to long-held assumptions, Sanskrit is not older than Sindhi; rather, Sindhi stands as one of the world's most ancient languages with direct ties to the Indus script.

This work examines Sindh's geo-cultural landscape, early agrarian communities, the rise of urban centers, social and economic life, religion, external trade, and the ultimate decline of the Indus Civilization. It rejects inherited myths and presents history as faithfully as possible, free from religious, racial, or national bias. The aim is to ground our understanding of Sindh's past not in conjecture but in the findings of modern science.

Ruk Sindhi

Karachi, 2025

Geological Geography of the Indus Valley

Abstract

This paper explores the geological evolution of the Indus Valley, situating its development within global geological events and theories. Drawing upon scientific research, geological surveys, and historical accounts, it highlights the processes through which the Earth and the Indus Valley in particular emerged—from the primordial nebula stage, planetary collisions, and continental drift, to the eventual formation of fertile plains along the Indus River.

Introduction

The Earth's geological history reflects a long sequence of cosmic and terrestrial processes that shaped continents, oceans, and landscapes. The

Indus Valley—today encompassing much of Sindh and surrounding regions—emerged from these transformations through a combination of planetary collisions, continental drift, oceanic submergence, and fluvial activity (Lewis, 2016; Young, 2016).

Origins of the Earth

Billions of years ago, the universe consisted only of burning gases, referred to by scientists as "Nebula Gas." Gradual cooling led to the formation of stars, one of which became our sun. From the sun, fragments broke away and eventually formed planets, including Earth (Russell, 2016).

According to recent studies at UCLA, Earth itself was formed approximately 4.5 billion years ago through a violent collision with a smaller planet called *Theia*. The collision merged the two bodies, with a fragment later becoming Earth's moon (Lewis, 2016). The similarity in rock samples from the moon and volcanic rocks on Earth supports this theory (Young, 2016).

Geological Cooling and Evolution

As Earth cooled, gases condensed into vapors, which became water through continuous rainfall. Water collected into oceans, while volcanic eruptions, earthquakes, and tectonic movements continuously reshaped the Earth's surface (Blandford, 1875).

Geologists divide Earth's history into Eras, Periods, and Epochs based on fossil and rock records. During these times, continental drift and climatic changes significantly altered global geography (Panhwar, 1985).

Continental Drift and Gondwana

Continental drift theory suggests that today's continents were once united. One group of American scientists proposed a single supercontinent, *Pangaea*, about 250 million years ago (ESSA, n.d.). Another group argued that two landmasses—*Gondwana* and *Laurasia*—dominated the early Earth (Sproul & Diener, 2013). Gondwana included Africa, South America, India, Australia, and Antarctica, while Laurasia comprised North America and Europe.

India and Sindh were once part of Gondwana. During the Tertiary Period, India was connected by land to Africa, Ceylon, and Australia (Blandford, 1875; Raverty, 1892). About 60 million years ago, Sindh and the subcontinent lay beneath the Tethys Sea (Laden, 2012).

Ice Ages and Separation from Africa

From the Pliocene epoch (1 million years ago) to the Pleistocene epoch (ending around 20,000 years ago), northern India was linked to Alaska and China (Blunden, 1875). Around 600,000 years ago, massive glaciations began, leading to four distinct Ice Ages (Panhwar, 1985). As ice receded 20,000 years ago, India and Africa separated, with the Indian Ocean forming in between. The submerged middle landmass was called *Lemuria* (Pithawala, 1934).

Formation of Sindh

Sindh emerged from the Tethys Sea approximately 1 billion years ago due to tectonic uplifts and earthquakes in the Himalayas, which pushed the land upward and caused the sea to retreat (Pithawala, 1934). The earliest strata of Sindh (Precambrian) date back 3 billion years. Mountains such as Karoonjhar and Kirthar are among the oldest in the region, with Nagarparkar hills dating back 3.5 billion years (Pithawala, 1945).

By 250,000 years ago, the Indus began flowing across its plains after the sea retreated to Karachi. Subsequent climatic shifts caused sea levels to rise again, submerging much of Sindh. Around 5000 BCE, the sea had retreated as far as Badin and Sakro, leaving behind fertile alluvial plains (Raverty, 1892; Advani, 1925).

The Indus Plain

The Indus Plain stretches between Attock, the Aravalli Hills, and the Kirthar Mountains. To the west lie the Suleiman Hills, to the north the Potohar Plateau, and to the east the Thar Desert. The plain begins at the confluence of the Jhelum and Chenab rivers.

It is divided into the Upper Indus Plain—containing doabs such as Rachna, Chaj, and Sindh Sagar—and the Lower Indus Plain, which includes desert regions. The Indus River, flowing like a spine through the valley, played a central role in shaping this fertile plain by depositing alluvial silt (Lambrick, 1964).

Conclusion

The geological history of the Indus Valley reveals its transformation from a submerged seabed within the Tethys Ocean to a fertile river plain shaped by tectonic shifts and the Indus River's alluvial deposits. These processes underscore Sindh's identity as a "land born of the sea," a geological and cultural foundation central to South Asia's history.

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Cultural and Political Geography of Sindh and the Sindhu Civilization

Abstract

This article explores the cultural and political geography of Sindh during the formative period of the Sindhu Civilization, from the earliest times to 1500 BCE. It examines the origin of the name "Sindh," the geographical extent of the civilization, its political divisions, the significance of the Sindhu and Hakra rivers, and the climatic conditions that shaped its history. Drawing upon the works of historians and archaeologists, this study situates Sindh within the broader context of ancient civilizations, highlighting its centrality in South Asian history. The article concludes with a discussion of environmental change and its role in the decline of the Sindhu Civilization.

Introduction

The land of Sindh derives its name from the Sindhu River, reflecting the deep interconnection between geography and identity. The name "Sindh" has ancient origins, rooted in the life-giving river that nourished its plains, supported its people, and shaped its civilization (Malkani, 1960). This study examines the cultural and political geography of Sindh during the Sindhu Civilization (ca. 3000–1500 BCE), with a focus on its territorial extent, provincial divisions, river systems, climate, and decline.

Origin of the Name "Sindh"

According to Malkani (1960), the inhabitants of the region named their land after the Sindhu River. The word "Sindh" or "Sindhu" meant "river," and thus the territory through which the river flowed came to be called Sindh. Iranian traders later transformed "Sindh" into "Hind," which eventually became "Hindustan." Roman traders adapted it into "Ind," leading to the modern name "India." The term "Bharat" came into use only later, during the reign of Raja Dushyant and his son Bharat. Thus, both India and Hindustan trace their etymology to the Sindhu River (Malkani, 1960).

As Lambrick (1964) emphasizes, naming the land after the Sindhu River is historically appropriate, as the river created and sustained the region's fertility and prosperity.

Geographical Extent of the Sindhu Civilization

The Sindhu state, emerging after the sea receded from present-day Sindh, spanned nearly 500,000 square miles, making it one of the largest civilizations in Asia (Mughal, 1981). Its reach extended as far north as the borders of Russia, covering territory four times larger than Babylon and twice the size of Egypt (Siddiqui, 1980).

The region included present-day Pakistan (excluding the mountainous areas of Khyber Pakhtunkhwa and Azad Kashmir), Indian Punjab, western Uttar Pradesh, Haryana, Kutch, Kathiawar, Gujarat, Maharashtra, and parts of Afghanistan (Panhwar, 1984).

Political and Provincial Divisions

Historical accounts suggest that the Sindhu state was divided into five provinces (Panhwar, 1980). The central province corresponded to present-day Sindh, with Mohenjo-daro as its capital. The western province, corresponding to Balochistan, had its capital at Damb Sadaat. The northern province, comprising Punjab and parts of Khyber Pakhtunkhwa, had Harappa as its center. The eastern province included Indian Punjab and surrounding areas, with Kalibangan as its focal city. The southern province covered Kutch, Kathiawar, and Gujarat, with Lothal as its capital.

River Systems

The Sindhu River

The Sindhu River, 1,800 miles long, originates from the glacial streams of Singi Khamban in Tibet, about 30 miles from Lake Mansarovar. It flows through occupied Kashmir, Azad Kashmir, Khyber Pakhtunkhwa, and Punjab before entering Sindh at Kashmore, nourishing the region and ultimately emptying into the Arabian Sea. During the Sindhu Civilization, it had multiple branches, one of which supplied water to the Hakra River (Lambrick, 1964).

The Hakra River

The Hakra River, now extinct, was known by various names: Ghaggar, Saraswati, Nalashkar, Reni, Wahindo, and Naro. It originated in the Sulaiman mountains and received tributaries from the Yamuna, Sutlej, and Sindhu rivers. It once flowed into the Rann of Kutch, where it merged with the Luni River (Memon, 1975; Panhwar, 1980). The drying of the Hakra around 1226 CE transformed the fertile Thar region into desert (Samrat, 1970).

Climate and Environmental Change

The Sindhu Valley was once within the monsoon zone. Summer rains came from the southeast, while winter rains came from Central Asia (Minchin, 1907). Between 3000 and 1750 BCE, the climate was highly humid, supporting dense forests and wildlife. However, after 1750 BCE, rainfall declined, rivers dried, and the Hakra disappeared, leading to widespread drought (Panhwar, 1983).

Climate Timeline

- Before 9000 BCE: Extremely dry
- 9000–8500 BCE: Transitioning to less dry
- 8500–7500 BCE: Moderately humid
- 7500–3000 BCE: Moderately humid
- 3000–1750 BCE: Highly humid
- 1750–900 BCE: Very dry

The reduction in rainfall caused agricultural collapse and depopulation in Hakra regions. Archaeologists associate this climatic shift with the decline of the Sindhu Civilization (Panhwar, 1983).

Conclusion

Sindh's cultural and political geography is inseparable from the Sindhu River, which shaped its land, civilization, and identity. The Sindhu Civilization covered an expansive territory, organized into provinces, sustained by major river systems. Climatic shifts beginning around 1750 BCE initiated its decline. The legacy of Sindh and the Sindhu River endures in the very names of India and Hindustan, underscoring the region's foundational role in South Asian civilization.

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Early Human Settlements in the Indus Valley

Origins of Life

Life began in the oceans billions of years ago. As the Earth formed, mountains and landmasses emerged. Around 4 billion years ago, the first living organism—*Amoeba*—appeared in the warm seas (Mikhail & Segan, 1982). From this single-celled life, various marine animals evolved, including invertebrates like fish and sponges. About 350 million years ago, vertebrates such as fish and amphibians emerged (Mughal, 1985).

By 140 million years ago, some marine animals had evolved to survive both in water and on land. These creatures gradually moved toward land in search of food, initially settling in swampy areas. From these amphibians came reptiles like snakes and lizards, followed by birds. Eventually, mammals such as horses, elephants, camels, lions,

deer, and monkeys appeared around 80 million years ago (Panhwar, 1982).

Emergence of Human-like Species

About 50 million years ago, a species resembling monkeys began to show human-like traits. These *Anthropoid Apes* appeared in dry regions and, around 20 million years ago, evolved into early humans (Mughal, 1985). Experts believe it took nearly 10 million years for these ape-like beings to fully evolve into modern humans (Howell, 1970).

Fossil evidence of these early human-like species has been found in Africa and northern India (Leakey, 1936). Some researchers suggest that a highly evolved species of apes once lived in a warm climate on a now-submerged continent in the Indian Ocean (Moir, 1985). These beings were likely similar to today's chimpanzees and gorillas and lived in regions including Africa and Sindh (Basham, 1954).

This evolutionary process—from animal to human—occurred during the *Tertiary Age* of Earth's geological history (Brierfoot, n.d.).

Fossil Evidence in Sindh

In Sindh, the evolutionary sequence is preserved in the layers of mountains and soil. Fossils of invertebrates found in the deepest layers indicate that the region was once submerged under the sea. As we move upward through the layers, we find fossils of fish, reptiles, mammals, birds, and eventually human-like beings (Panhwar, 1982).

Fossils of marine animals have been discovered in the Khirthar, Khandkot, and Pub ranges. In the Manchar region, fossils of elephants, horses, and rhinoceroses have been found (Panhwar, n.d.). These findings suggest that around 60 million years ago, various species of insects, vertebrate fish, and birds existed in Sindh, while mammals appeared around 45 million years ago (Panhwar, 1984).

Human Evolution in South Asia

Compared to other regions, human evolution began earliest in South Asia. In the Indus Valley, humans struggled to understand and

control nature, leading to inventions and the rise of civilization (Engels, 1973). The climate, water resources, and biodiversity of the region provided ideal conditions for human development (Moir, 1985).

Experts now agree that the oldest evidence of human existence is found in the Indus Valley. Dr. A.L. Basham believed that early human evolution occurred in this fortunate valley (Basham, 1954). Anthropologist Howard Moir also stated that the first human development took place in southern Asia and that many domesticated animals originated here (Moir, 1985).

Moir identified cattle, sheep, goats, pigs, chickens, dogs, mules, elephants, and peacocks as native to South Asia. Professor Leakey supported this view, suggesting that these animals spread from South Asia to Africa, America, and Europe via the Bering land bridge during the Tertiary Age (Leakey, 1936).

Fossil Discoveries of Early Humans

Around 20 million years ago, humans in the Indus Valley began to separate from their animal

ancestors. Fossils of these early humans have been found in the Siwalik Hills of India. In 1930, G.E. Lewis discovered fossilized upper and lower jaws of a human-like creature named *Ramapithecus*, dating back 15 million years to the Miocene epoch (Howell, 1970). In 1961, further studies confirmed Ramapithecus as one of the oldest known human ancestors.

Clark Howell stated that modern humans are descendants of Ramapithecus (Howell, 1970). Later, in Pakistan's Pothohar region, fossils of a 7-million-year-old human-like species named *Sawapithecus* were found (Panhwar, 1982). These beings did not yet use tools and survived on roots, fruits, and honey. They were still in the early stages of evolution, learning to walk upright and use their hands (Mughal, 1985).

In 1983, archaeologists found evidence of *Riwat Man* in Murree's Rawat area—an early stone-age human who used tools. His age was estimated at 2 million years (Bower, 1988). Additional evidence from the same region suggests human activity 45,000 years ago.

Homo Sapiens in the Indus Valley

In Andhra Pradesh, India, archaeologists discovered stone tools from the Paleolithic era, proving that *Homo sapiens* existed in the Indus Valley 74,000 years ago (Petraglia, 2010). This challenged the earlier belief that modern humans first appeared in Africa 50,000–60,000 years ago.

Oxford University scientist Michael Petraglia confirmed this in an interview with *Deccan Herald*. Similar evidence was found in Pakistan's Pothohar region, in the village of Dhaba in the Soan Valley (Patnaik & Chauhan, 2009).

These discoveries led experts to revise their views and acknowledge that the earliest modern humans lived in the Indus Valley. Thus, we can now confidently say—based on scientific research—that the Indus Valley was the cradle of human evolution and the starting point of humanity's journey.

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Stone Age Sites in the Indus Valley

Introduction

When early humans began to diverge from their animal ancestry, they initiated a journey of survival and adaptation. To secure food and protection, they began crafting tools—primarily from stone—which helped them dig roots, pluck fruits, and hunt small animals. These primitive tools marked the beginning of human technological evolution. As long as humans relied on stone implements, scholars have referred to this era as the "Stone Age." In the Indus Valley, this period spanned approximately from 1 million to 4,000 BCE and is divided into three distinct phases:

- **Paleolithic Age (Old Stone Age):** 1,000,000 – 15,000 BCE

- **Mesolithic Age (Middle Stone Age):** 15,000 – 8,000 BCE
- **Neolithic Age (New Stone Age):** 8,000 – 4,000 BCE

This article focuses on the first two phases—Paleolithic and Mesolithic—highlighting the activities and archaeological evidence of early humans in the Indus Valley.

1. Paleolithic Age: The Dawn of Human Society

As primitive humans descended from forested canopies and left dense jungles behind, they began settling in plains near rivers, lakes, and springs—areas rich in food and water. This era represents the "childhood" of humanity. To defend themselves against wild animals, they used stones and sticks as their first tools. These stones, often naturally fractured by river currents or collisions, were sharp and flat—ideal for digging, cutting, and hunting.

During this phase, humans had not yet developed agriculture or animal domestication. They lived nomadic lives, sleeping in trees and wandering in search of food. As food scarcity

increased, they began hunting animals for meat. Hunting required cooperation, prompting early humans to form groups. This marked the genesis of social life, transforming solitary individuals into "social animals." Such collective living laid the foundation for societal development, innovation, and cultural evolution.

Archaeological evidence of Paleolithic settlements and tools has been found in the Indus Valley. Notably, in the Pothohar region near Rawalpindi, along the Soan River, researchers discovered stone tools and habitation sites dating back approximately 500,000 years. This culture is known as the "Soan Culture" (Gordon, 1950).

Some tools found in the deepest layers of the Soan Valley predate the Soan Culture itself, indicating even earlier human activity (Sorley, 1968). These layers reveal two distinct phases: one dating back 500,000 years, and another between 400,000 and 200,000 years. The earlier phase includes unshaped stones, while the latter shows signs of tool refinement—axes, arrowheads, and cutting implements—though agriculture and domestication were still absent (Pithawala, n.d.).

Sir Mortimer Wheeler noted that the oldest evidence of human habitation in Pakistan comes

from the Soan River near Rawalpindi, where simple knives and axes dating back 500,000 to 300,000 years were found (Wheeler, 1955). These tools resemble those discovered near the Lunhi River in Nagarparkar and are believed to be contemporaneous (Gauhar, 1969). Similar tools have been found in Rohri, Sukkur, and Waghodar near Karachi, confirmed by archaeologist H.T. Lambrick (Lambrick, 1964).

Tools from the Beas River valley in Punjab also belong to the Paleolithic era, as revealed by archaeologist B.B. Lal (Panhwar, n.d.). The Soan Culture extended across Sindh, Balochistan, and Punjab, with early humans living in open plains. As the climate cooled and snowfall increased, humans sought shelter in caves—marking a significant shift in habitation patterns.

Sindh, rich in hills and caves, offered refuge to these early humans. Archaeological remains suggest that cave dwellers were more advanced than their plains-dwelling ancestors. Around 100,000 years ago, humans began inhabiting caves in western Sindh. Skulls have been found near Shah Bilawal in Sehwan, and ancient skeletons with stone tools were discovered at Tanga Nekha. A cave known as “Huk Thumbo” near the Kosi spring in the Lakhi hills is also believed to be from this era (Sorley, 1968). In

Khyber Pakhtunkhwa, a cave near Shanghao has yielded remains dated between 100,000 and 40,000 BCE (Mehrchand, n.d.).

These cave-dwelling communities lived in small groups—not yet organized into families or tribes. Their proximity fostered empathy and kinship. Without knowledge of fire, they buried their dead beneath stones to prevent decay. Such burial practices have been documented across Sindh.

In December 1975, a team from Cambridge University led by Dr. Bridget Allchin conducted a survey of Paleolithic sites in Sindh. They claimed to have discovered tool-making workshops near Rohri and Hyderabad. Dr. Allchin described these as unique sites, comparable only to those found in Egypt. The tools were dated to approximately 50,000 BCE (Cousens, n.d.).

During this time, humans still relied on hunting, fishing, and foraging. They crafted clothing from animal hides and began using fire—initially borrowed from natural sources like forest fires. Eventually, they learned to produce fire by striking stones together. This discovery revolutionized their lives, providing warmth, protection, and the ability to cook food.

Another monumental achievement of this era was the invention of language. To communicate and coordinate, early humans developed meaningful sounds and gestures, which gradually evolved into structured speech. This linguistic innovation marked a profound leap in human evolution, paving the way for the Mesolithic Age.

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Middle Stone Age (Mesolithic Period)

During this era, production tools advanced significantly. There was notable improvement and innovation in tools—bows and arrows were invented, which greatly boosted hunting. New stone tools were crafted, such as scrapers, axes, hooks, and knives. Toward the end of this period, pottery began to emerge, and the domestication of animals started. Once early humans began keeping animals, their workload lightened—they now had means for transport and carrying loads, which eased many of their hardships. Food supply also became more manageable, as they began consuming milk and meat from domesticated animals.

Toward the end of this era, humans turned their attention to agriculture. They began cultivating small plots of land near lakes and rivers. With improved production methods, many people abandoned nomadic life and settled

permanently. This led to stronger community systems and accelerated language development. Large groups began settling near water sources for easy access to fishing and hunting. Work became communal, and food was shared equally.

In the Indus Valley, the Middle Stone Age lasted from around 15,000 to 8,000 BCE. Archaeological evidence of human settlements from this period has been found in Gujarat, Kathiawar, near Rohri in Sukkur, Karachi, Hyderabad, and the surroundings of Manchar Lake.

People of this era made their stone tools from flint, which they sourced from the hills around Aror (near Sukkur). Experts have discovered a flint workshop in that region. Flint was preferred because of its hardness, making it ideal for crafting durable and sharp tools like knives, blades, and points. Lambrick notes that high-quality tools and their production sites are located near Rohri and Kot Diji, with similar sites found in the Kohistan region and along the southern coastal hills.

As tools improved and the Ice Age ended, people began migrating to new areas. They started domesticating cattle, sheep, and goats in large numbers. Pottery from this era has also been

found—very primitive, handmade without the use of a wheel. In southern Sindh, people primarily relied on fishing. Tools from this period have been discovered at Tharro Hill and near the Golf Club in Karachi. Other sites near Rohri, such as Shahanshah Baloch and Nawab Punjabi, also show evidence of human settlements. Additional findings have been made along the Hakra River, where tools likely traveled from Rohri via the river route.

People began shaping stones into specific forms for practical use. They used stone slabs and grinders for cooking. Gradually, they refined their tools, crafting high-quality implements. For fishing, they made hooks, stone spears, and water containers from animal hides. Excellent axes, knives, and cutting tools were also produced. Such items have been found near the Luni River (Nagarparkar) and other locations. Captain Reed Dick discovered similar tools in 1941 at Drigh Road (Karachi), shaped like crescent moons—possibly used for fishing or as arrowheads, with wooden shafts that have since decayed.

Sharp and pointed tools greatly enhanced hunting. Groups of people began venturing into forests along the banks of the Sindhu and Hakra rivers, including regions like Sewistan and Makran. These forests were home to elephants,

rhinoceroses, monkeys, cheetahs, and other wild animals. Experts describe this era as one dominated by hunters and herders, as agriculture had not yet developed significantly, nor had any formal political systems emerged. People lived in small kin-based communities.

Social Life

Initially, society had no class divisions—no oppressors or oppressed, no masters or slaves. Everyone held equal status and lived without exploitation. Class systems emerged much later. Social scientists refer to this early system as "primitive communism" or a "communal order."

A look at the social life of people in the Old and Middle Stone Ages in the Indus Valley reveals that class structures had not yet formed. Everyone contributed to production—men, women, children, and elders—and shared the fruits of their labor equally. Private property did not exist, as the simplicity of tools and life made it impossible for individuals to work alone. Cooperation was essential for hunting and gathering, and even after strenuous effort, they could barely gather enough food to survive. Thus,

surplus production and hoarding were not possible.

There was no concept of government, state, or law. People defended themselves collectively against wild animals and external threats. Territorial boundaries did not exist—they settled wherever food and water were abundant.

During this period, the inhabitants of the Indus Valley transitioned from a savage lifestyle to communal living. These communities were based on blood relations. Initially, free sexual relations were common, and because paternity was uncertain, lineage was traced through the mother. Women held high status and led families and communities. All members of a community—men and women—shared sexual relations without jealousy or rivalry.

Social scientists call this era a "matriarchal society," as women were the leaders. They managed food distribution, child-rearing, and livestock care.

Key Inventions and Cultural Shifts

Early humans, once naked, began covering themselves with animal hides—not for modesty, but to protect against heat and cold. This later evolved into the concept of clothing. One of the greatest inventions of this era was the discovery of fire. With fire, they could cook and soften meat. Tools were made from stone, wood, bones, and horns. Humans began moving from dependence on nature toward producing their own food. This era marks a milestone in the long journey of human social evolution.

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Traditional Agrarian Practices of the Indus Valley Region

Abstract

This paper explores the origins and development of early human settlements in the Indus Valley region. Drawing on archaeological evidence, it examines the transition from Stone Age subsistence strategies to Neolithic agricultural practices, early village life, craft production, religious beliefs, and the emergence of trade networks that ultimately led to the rise of the Indus Valley Civilization.

Introduction

The Indus Valley, one of the cradles of ancient civilization, provides crucial insights into the evolution of human society in South Asia. Archaeological research reveals that its earliest

inhabitants progressed through successive cultural stages, beginning with hunter-gatherer communities of the Stone Age and culminating in settled agrarian societies during the Neolithic period (Possehl, 2002; Kenoyer, 1998). These developmental stages laid the foundation for the complex urban centers that later emerged during the third millennium BCE.

The Stone Age and Early Subsistence

In the earliest phase, human groups in the Indus Valley relied on hunting, fishing, and gathering wild fruits and plants for survival (Allchin & Allchin, 1982). Their tools were fashioned from stone, wood, and animal bones. Over time, stone implements were refined and polished, indicating a gradual technological advancement.

The mastery of fire marked a significant breakthrough. Fire provided warmth, protection from predators, and the ability to cook food. It also facilitated new craft techniques, such as pottery and metallurgy, which would later become essential for cultural development (Gupta, 1996).

Neolithic Agricultural Revolution

The Neolithic period introduced agriculture, which transformed human settlement patterns. Communities in regions such as Mehrgarh (in present-day Balochistan) cultivated wheat, barley, peas, sesame, and other crops as early as 7000 BCE (Jarrige et al., 1995). Simultaneously, domestication of cattle, sheep, goats, and buffaloes provided meat, milk, hides, and labor for plowing fields.

Archaeological evidence from sites such as **Kot Diji**, **Amri**, and **Nal** reveals the existence of early mud-brick houses, grain storage pits, and decorated pottery (Kenoyer, 1998). These developments reflect a transition from nomadic lifestyles to settled village communities with organized social structures.

Craft Production and Technological Advances

Alongside agriculture, early Indus communities advanced in craft production. Pottery, weaving, bead-making, and metallurgy

flourished. The use of copper and later bronze tools expanded technological possibilities, while ornaments crafted from shells, ivory, semi-precious stones, and metals were widely used (Possehl, 2002).

Such material culture suggests not only growing aesthetic sensibilities but also social differentiation, as certain artifacts were likely used to signify identity and status.

Religious Beliefs and Burial Practices

Religion during this period was characterized by fertility cults and nature worship. Figurines of mother goddesses and evidence of reverence for natural elements such as water, fire, and sacred trees have been discovered (Marshall, 1931). Burial practices, which often included pottery, ornaments, and food offerings, indicate a belief in life after death.

Trade and Exchange Networks

Early agricultural villages also developed systems of trade. Surplus grain, pottery, and

beads were exchanged with neighboring communities. Archaeological finds suggest long-distance trade networks extending into Central Asia and Mesopotamia, laying the groundwork for the Indus Valley's later integration into international exchange systems (Ratnagar, 2004).

Conclusion

The trajectory of human development in the Indus Valley — from Stone Age hunter-gatherers to Neolithic farmers and craft specialists — demonstrates a steady progression toward social complexity. These innovations in subsistence, technology, belief systems, and trade ultimately culminated in the rise of the Indus Valley Civilization, one of the earliest and most remarkable urban cultures of the ancient world.

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The Foundation of the Urban State in the Indus Valley

Introduction

The emergence of the state in human history was not a sudden event born of conquest or coercion. Rather, it evolved from the gradual transformation of tribal societies into organized political entities. The Indus Valley Civilization, flourishing around 5000 BCE, stands as one of the earliest examples of an urban state founded on collective governance, social equity, and technological sophistication. This article explores the socio-political evolution from tribal organization to urban statehood, with a focus on the unique characteristics of the Indus Valley system.

The Origin of the State

Before the rise of formal states, human societies were organized into tribes based on kinship and blood relations. These tribal systems developed in two major phases: matriarchal societies, where women held leadership roles, and patriarchal societies, which emerged with the advent of agriculture and male-dominated labor divisions (Lenin, 1905). Tribal organization provided a framework for collective decision-making, conflict resolution, and defense against external threats.

As Hegel (1821) noted, “The state is the product of society at a particular stage of development.” This transition was marked by the formation of broader alliances among tribes, unified by shared economic and cultural interests. Engels (1884) emphasized that while the state officially represents society, it often serves the interests of the ruling class. Nonetheless, the early state was rooted in cooperation and mutual benefit rather than domination.

The Urban State in the Indus Valley

By 5000 BCE, the people of the Indus Valley had developed sophisticated urban centers such as Mohenjo-Daro and Harappa. These cities

featured baked brick houses, advanced sanitation systems, public wells, and wide streets—elements that mirror modern urban planning (Marshall, 1931). Governance in these cities was based on collective consultation, and rulers could be peacefully removed if they abused power. This system fostered stability and civic participation.

> H. G. Wells (1920) recognized the Indus Valley as a cradle of civilization, praising its advancements in metallurgy, trade, and architecture. The civilization's artisans worked with copper, bronze, silver, and gold, importing raw materials through long-distance trade networks (Terry, 1925). Marshall (1931) observed that despite transitioning from the Stone Age, the people of the Indus Valley demonstrated remarkable technological and cultural maturity.

Social and Economic Structure

The Indus Valley society exhibited traits of primitive communism, as described by Stalin (1938). There was minimal social stratification,

and housing and lifestyles were largely uniform. Collective ownership of production prevailed, and private property emerged only in later periods. Communal cooking sites discovered at Amri and public architecture in Mohenjo-Daro suggest a society oriented toward collective welfare rather than elite privilege.

Unlike Egypt or Mesopotamia, where monumental architecture served kings and deities, the Indus Valley built for its people. Marshall (1931) concluded that "In Sindh, monumental buildings were erected for the comfort of the people, not for kings or gods—a unique phenomenon in the ancient world."

Conclusion

The Indus Valley Civilization offers a compelling model of early state formation rooted in egalitarianism, technological innovation, and collective governance. Its urban planning, social organization, and economic systems challenge conventional narratives that associate ancient statehood with hierarchy and coercion. As modern scholarship continues to uncover the legacy of Sindh's ancient cities, the Indus Valley

stands not only as a historical marvel but as a foundational pillar of South Asian civilization.

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The Indus Valley Civilization: An Early Democratic Society

Introduction

For decades, scholars considered ancient Egypt and Mesopotamia as the world's earliest great urban civilizations. However, subsequent archaeological and geological research has established that the **Indus Valley Civilization (IVC)** was not only larger but also more advanced in many respects. Archaeologist Giosan (2012) argues that the IVC encompassed nearly **10% of the world's population** at its peak and functioned as a society far more democratic in nature compared to its contemporaries. Unlike Egypt and Mesopotamia, the Indus centers lacked monumental palaces and temples dedicated to kings or high priests, indicating a different socio-political order.

Political Organization

The political organization of the IVC has been the subject of intense scholarly debate. According to geologist John Roach, writing in *National Geographic*, the absence of royal palaces, grand temples, or commemorative monuments at Mohenjo-Daro strongly suggests that no monarch or ruling dynasty held power there (Roach, 2006). Similarly, Jonathan Mark Kenoyer, Professor of Archaeology at the University of Wisconsin–Madison, concludes that the archaeological record reflects the **absence of kingship or priestly rule**. Instead, Mohenjo-Daro appears to have been administered by councils or assemblies composed of representatives from various localities (Kenoyer, 1998). This evidence supports the notion that the **Indus Valley was the birthplace of an elected democratic form of governance** (Possehl, 2002).

Socio-Economic Structure

The Indus Valley has been described as the **world's first socialist-oriented state**, where collective welfare and urban planning were prioritized. Archaeological evidence shows advanced water management, urban sanitation

systems, and equitable distribution of resources (Wright, 2010). The inhabitants engaged in long-distance maritime trade, traveling by boats to distant regions and establishing contact with foreign lands well before other civilizations (McIntosh, 2008).

For Mesopotamians, the land of Sindh (Indus) held a special significance. Sumerian texts depict the Indus as a land of prosperity, often associated with myths and traditions. A Sumerian inscription describes it as follows:

"That land, which lies to the east of Sumer, from where many goods come by boat, is the place where the sun rises. It is a paradise where there is no sickness, no widows, and no orphaned children." (Kramer, 1963, p. 278)

Such descriptions highlight the **influence of the Indus civilization on Mesopotamian culture**, including the Babylonian world, where echoes of Indus societal ideals can be found.

Conclusion

The evidence suggests that the Indus Valley Civilization was not only an advanced urban

culture but also one of the earliest **democratic and welfare-oriented societies**. Unlike Egypt and Mesopotamia, which were heavily centralized under monarchies and priesthoods, the IVC was characterized by collective governance, egalitarian urban design, and widespread socio-economic equality. Its legacy influenced neighboring civilizations, making Sindh a model state for ancient societies.

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Indus Valley Civilization: A Culture Based on Peace, Not Violence

Introduction

One of the most distinctive characteristics of the ancient Indus Valley Civilization was its peaceful way of life. Archaeological evidence indicates that unlike other ancient civilizations, the Indus people did not prioritize militarism or warfare. According to American archaeologist Jonathan Mark Kenoyer, who delivered a lecture at the American Center in 1976 on various aspects of the Indus Civilization, no significant weaponry has been discovered from Indus sites (Kenoyer, 1976). In contrast to Mesopotamia, Oman, Egypt, China, Mesoamerica, and South America, the Indus Valley Civilization thrived as a mercantile and trading society that endured for centuries.

Absence of Military Technology

Archaeological surveys confirm that early Indus settlements did not employ advanced military technologies. Unlike fortified settlements in Mesopotamia or Egypt, Indus Valley cities show no evidence of large-scale fortification for warfare (Wheeler, 1968). Similarly, no depictions of battles, conquests, or prisoners of war have been identified on Indus seals, figurines, or pottery (Possehl, 2002). Excavations at Mehrgarh revealed no traces of violent mass deaths, suggesting an absence of militarized conflicts (Kenoyer, 1998).

While minor disputes or localized conflicts may have occurred, there is no evidence of large-scale organized wars. The civilization did not expand through conquest or coercion, but rather through trade, craft specialization, and urban organization. As Kosambi (1965) argued, the strength of Indus society lay not in violence but in its cultural and intellectual achievements.

Social and Political Organization

The Indus Valley Civilization appears to have developed a decentralized yet cooperative political structure. Its inhabitants were politically

independent, not dominated by foreign rulers or tribal overlords. This allowed them to flourish intellectually and materially, advancing in crafts, technology, and urban planning. Government appears to have been based on collective representation, particularly with strong participation from the mercantile class (Possehl, 1997).

The ruler or leader was answerable to a wider assembly, suggesting an early form of participatory governance (Kenoyer, 2010). Public welfare, protection of citizens, and regulation of trade appear to have been central responsibilities of governance.

Urban Governance and Civic System

Evidence from Mohenjo-Daro and Harappa indicates a highly developed civic administration. Municipal arrangements included sanitation systems, standardized weights and measures, public wells, granaries, and organized marketplaces (Marshall, 1931). Large public halls with mud-brick benches suggest spaces for civic assemblies, akin to proto-parliamentary institutions. One such hall, measuring approximately 80 square feet, contained tiered

platforms likely used for collective gatherings (Possehl, 2002).

The Great Bath at Mohenjo-Daro demonstrates advanced civic engineering. Measuring 39 feet long, 23 feet wide, and 8 feet deep, it was constructed with watertight brickwork and included an efficient drainage system. Such structures indicate not only technical sophistication but also a strong cultural emphasis on hygiene, ritual, and community life (Marshall, 1931).

Urban Planning and Architecture

Archaeological remains reflect systematic urban planning. Houses were arranged in straight, intersecting streets, built with baked bricks of standardized proportions. Multi-room houses included private wells, bathrooms, and sometimes multiple entrances (Wright, 2010). Drainage systems were carefully designed with covered brick-lined sewers connecting residential and public areas.

According to John Marshall, no other contemporary civilization in Egypt or Western Asia demonstrates such advanced sanitary engineering

and civic design (Marshall, 1931). These features highlight the Indus people's commitment to public health, social order, and sustainable urban living.

Decline of the Civilization

After 2000 BCE, environmental and climatic shifts contributed to the gradual decline of the Indus cities. Reduced monsoon rainfall and shifts in river courses led to declining agricultural productivity, forcing people to migrate and abandon urban centers (Giosan et al., 2012). Despite the collapse of major cities, rural settlements and regional cultures continued, forming the basis for later South Asian civilizations.

Indigenous Origins of Indus Civilization

Recent scientific research has challenged earlier notions that the Indus Civilization was founded by external migrants. A collaborative study by scholars from the University of Florida, Deccan College (Pune), and American researchers analyzed isotopic data from 4,000-year-old human teeth at Harappa and Haryana's Farmana site.

Their findings confirm that the civilization was built by indigenous populations through a gradual process of urbanization (Valentine et al., 2015). The Indus Valley was thus the product of local cultural evolution, not foreign colonization.

Conclusion

The Indus Valley Civilization distinguished itself from its contemporaries by rejecting militarism and embracing peace, knowledge, and civic organization. Its strength lay in intellectual creativity, mercantile activity, and social cooperation rather than warfare. This peaceful orientation made it one of the most sophisticated yet humane civilizations of the ancient world.

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Socio-Cultural Life in the Urban State of the Indus Valley Civilization

Dance and Music

Music has historically served as one of the earliest and most effective mediums for the expression of human emotions. Within human societies, both dance and music occupied a distinctive place. The inhabitants of Mohenjo-daro, heirs of the Indus Valley Civilization, were deeply acquainted with and fond of music and dance. The famous figurine of the “Dancing Girl” and the discovery of flutes from Mohenjo-daro provide tangible evidence that the people of the Indus Valley not only appreciated music but also transformed it into a source of aesthetic pleasure and emotional fulfillment (McIntosh, 2008).

By that time, the art of music had advanced to such an extent that musical representations were immortalized in sculpture, preserved either for decorative or commemorative purposes. Dance and music became integral to the spiritual

nourishment of society. Artists, sculptors, and craftsmen were honored members of the community. Sculptors took pride in creating statues of dancers, singers, and other prominent cultural figures, placing them prominently in city squares or other important locations (Kenoyer, 1997).

Evidence suggests that music and rhythm were closely linked to agrarian life. The roots of Sindhi music can be traced to rural traditions. A seal discovered at Mohenjo-daro depicts a man playing a drum at the center while surrounded by people dancing in unison, demonstrating the communal and celebratory nature of performance (Dales, 1986).

Ornaments and Bodily Adornment

The artisans of the Indus Valley were proficient in crafting ornaments of various kinds. They produced head ornaments, necklaces, armlets, forehead ornaments, earrings, bangles, bracelets, and anklets (Alana, 1992). These ornaments were made from a variety of materials such as copper, bronze, gold, beads, bones, shells, and even faience. Remarkably, the craftsmen also produced buttons for garments—intricately

carved, often in circular or wheel-shaped designs (Prasad, 1944).

Archaeological findings include terracotta figurines adorned with necklaces and bangles, as well as miniature statues displaying women wearing stacked bangles reaching from the wrist up to the shoulder (McIntosh, 2008). Some women of Mohenjo-daro decorated their arms fully with ornaments, a tradition also reflected in numerous figurines. The archaeological site of Chanhu-daro became so renowned for jewelry production that it has been referred to as the "City of Ornaments" (Mackay, 1943). Excavations yielded a wide variety of ornaments such as bangles, necklaces, pendants, armlets, combs, hairpins, cosmetic sticks, and kohl containers (Untracht, 1997).

The discovery of jewelry buried beneath floors or hidden within house walls indicates that ornaments were regarded as valuable possessions. Sindhi women, it appears, were fond of adornment and beauty, making use of mirrors, kohl containers, and various cosmetic tools (Kenoyer, 1997).

Painting and Artistic Expression

As agrarian culture developed, the people of Sindh began to express themselves through rudimentary forms of painting and imagery. Excavations at Amri revealed evidence of pottery painted with intricate geometric designs and animal figures (Memon, 1966). These often included triangular motifs filled with red pigment, suggestive of clustered houses resembling small village scenes.

Pottery decorations frequently depicted animals such as bulls, deer, and fish, reflecting the community's intimate connection with agriculture and the natural world (Wheeler, 1979). Artifacts from Nal and Kot Diji further revealed pottery with colorful designs, including peacocks, fish, and floral patterns. A terracotta amulet from Chanhu-daro bore engravings of antelopes and lotus motifs, illustrating the artistic achievements of that period (Nangia, 2004).

Games and Leisure Activities

The Indus Valley is regarded as the birthplace of chess. Discoveries at Mohenjo-daro include carved pieces and boards with grid patterns resembling the chessboard. Scholars such as Sir Mortimer Wheeler and Dr. F. A. Khan

concluded that chess was an invention of the Indus Valley, predating its later spread to Iran, Arabia, Egypt, and eventually Europe by the 11th century CE (Gupta & Gupta, 2006).

British scholar F. D. Douglas further emphasized that chess was already being played in Sindh 5,000 years ago (Talpur, 2012). These artifacts, including game pieces and boards, are preserved in the National Museum of Pakistan, Karachi.

Toys and Childhood Culture

The urban settlements of the Indus Valley have also yielded a wide variety of toys, highlighting the importance of children's recreation in that society (Mohenjo-daro Tools and Artifacts Gallery, 2012). Artisans produced terracotta carts, miniature figurines of oxen, rhinos, buffaloes, boars, elephants, crocodiles, turtles, hens, and parrots. These discoveries reflect the creativity of Indus artisans as well as the cultural emphasis placed on children's leisure.

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Economic Analysis of the Urban State in the Indus Valley Civilization

Introduction

The establishment of the urban state within the Indus Valley Civilization marked the beginning of remarkable advancements in knowledge, literature, and art. Artisans and craftsmen were respected members of society. With the transition from the Neolithic hunting lifestyle to settled agriculture, humans began cultivating crops and domesticating animals. By approximately 3000 BCE, the inhabitants of the Indus Valley had developed wheeled wooden carts, which facilitated the transportation of agricultural produce across settlements (Panhwar, 2013).

Agriculture

The people of the Indus Valley Civilization were primarily agriculturists. According to

archaeologists Dixon, Beden, Powell, and others, it was originally women in Sindh who experimented with seeds and plants, introducing methods of cultivation. Botanists believe that wheat cultivation in Sindh dates back to a very ancient period. Interestingly, experts argue that wheat was introduced in China around 2700 BCE, much later than in Sindh, while Russian scholars maintain that wheat cultivation first began in the Indus Valley (Qasmi, 1967).

Excavations from Mohenjo-daro have revealed charred yet intact grains of wheat, clearly the product of deliberate cultivation. Evidence also shows the cultivation of rice and pulses. Archaeological findings include wheat, barley, and peas at Harappa, while dates and impressions of coconut and banyan trees have been identified on seals. Discoveries from Mehrgarh indicate wheat and cotton cultivation as early as the 7th millennium BCE. According to irrigation expert M.H. Panhwar, the agricultural growth of Mehrgarh (7000 BCE), Amri (3700 BCE), Kot Diji (3300 BCE), and Mohenjo-daro (2350 BCE) laid the foundation for urban development (Panhwar, 2013).

Cotton cultivation was a remarkable achievement of the Indus people. A woven piece of cotton fabric found near copper and silver

vessels at Mohenjo-daro is considered the world's earliest evidence of cotton usage. Spindle whorls, made of clay and metals, were unearthed in nearly every household, confirming the widespread practice of spinning. Marshall (1931) asserted that cotton was used exclusively in Sindh during this period, centuries before its usage spread elsewhere in the world.

Rice cultivation is another significant discovery. For a long time, scholars believed rice was first grown in the Philippines. However, remains from Indus Valley sites show rice cultivation centuries earlier. In fact, during a visit to Mohenjo-daro, the Director General of Agriculture from the Philippines acknowledged the presence of rice husks in wall plaster, suggesting that rice farming originated in Sindh long before the Philippines.

Art and Craftsmanship

The pottery discovered at Mohenjo-daro was crafted from river clay mixed with lime and mica. These vessels were produced on the potter's wheel, some painted red with black polish. Several vessels appear to have been designed specifically for children, while others

were used for cosmetics. Excavations revealed stone ornaments, jars for storing grains, and clay toys such as wheels, bangles, and figurines.

The pottery from Amri demonstrates remarkable skill, decorated with black triangular designs that bear striking similarity to contemporary Sindhi patterns. The Kot Diji pottery reflects significant technological advancement, with painted decorations indicating sophisticated craftsmanship (Khan, 1958). Bronze and copper artifacts, such as spearheads, axes, knives, and ornaments, were also found at sites like Jhukar, Naro, and Kot Diji.

Excavations at Mohenjo-daro unearthed household vessels, daggers, arrowheads, chisels, and jewelry made of copper and bronze. Although these tools were functional, they were fragile and unsuitable for large-scale warfare. Figurines of dancers, bulls, and goats were also found, alongside ivory carvings, highlighting the cultural and artistic progress of the civilization.

Hunting and Animal Husbandry

The inhabitants of the Indus Valley consumed meat from both domesticated and wild

animals. Hunting was a common practice, as evidenced by seals depicting hunters with bows and arrows. Excavations at Mohenjo-daro revealed numerous arrowheads and clay pellets used for bird hunting. Fishing hooks have also been found in abundance. Animal bones discovered in urban and rural sites—including those of cattle, goats, sheep, and marine fish—indicate that meat formed an important part of their diet.

Conclusion

The economic foundation of the Indus Valley Civilization rested upon agriculture, textile production, craftsmanship, and trade networks supported by wheeled transport. The cultivation of wheat, barley, rice, and cotton, combined with advanced pottery, metallurgy, and textile industries, illustrates the high degree of specialization and innovation achieved by its people. Furthermore, the integration of hunting and fishing into their economy highlights the adaptive and resourceful nature of this ancient civilization.

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Was the Indus Valley the Birthplace of Science?

Archaeological evidence from Mohenjo-Daro suggests that as early as 2500 BCE, the inhabitants of the Indus Valley Civilization employed **stone calendars** to predict monsoon winds and floods of the Indus River. According to Finnish archaeologist Dr. Erika Maijala, who has conducted an in-depth study of these artifacts, these stones represent the **world's earliest scientific instruments** (Hilal Pakistan, 1983). Maijala argues that the birthplace of science was not Mesopotamia or Egypt but **Sindh**.

The excavated artifacts—circular, perforated, and conical stones, measuring 40–45 cm in diameter and weighing around 40 kg—bear engraved markings. These were likely used both as **astronomical tools** (for studying solar and stellar movements) and as **communal calendars** for agriculture, trade, and hunting (Hilal Pakistan, 1984).

Russian scholar I. E. Valdrovsky (1984) demonstrated through computer analysis of Indus seals that the people of the Indus Valley

possessed advanced **astronomical knowledge**. Similarly, artifacts reveal the development of **counting systems, weights, and measures**, preceding even the written script. Clay tokens for counting and carefully carved stone weights of varying sizes have been found, some large enough to require ropes for lifting, while smaller ones were used for gold and silver (Graersen, 1912).

A study by Canadian mathematician Dr. Bryan Wells, conducted with the Indian Institute of Mathematical Sciences, further confirmed that the Indus Valley Civilization had the world's **earliest organized economic system**, including trade, wages (in grain and goods), and valuation standards (Wells, 2009).

Moreover, American-Sindhi researcher Parveen Talpur (1995) demonstrated that the Indus script contains **geometrical patterns**, indicating a knowledge of **geometry** well before Greek developments.

Thus, archaeological, linguistic, and mathematical research collectively highlight that the **Indus Valley Civilization** was not only a cradle of urban culture but also a **birthplace of science**.

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Seals of the Indus Valley Civilization: A Legacy of Identity and Innovation

Among the most remarkable creations of the Indus Valley Civilization are its seals—small, intricately carved artifacts that offer profound insights into the social, economic, and artistic life of one of the world's earliest urban cultures. Excavated from major sites like Mohenjo-daro, Harappa, and others across the Sindhu region, these seals stand as enduring symbols of identity, craftsmanship, and communication (Jyothsna, 2025).

Material and Craftsmanship

The majority of Indus seals were crafted from steatite, a soft stone that allowed for detailed carving. After shaping and engraving, the seals were coated with a white alkaline glaze and fired to harden them—a process that reflects advanced

knowledge of materials and kiln technology (Hirst, 2019).

- **Size and Shape**: Most seals range from 1.5 to 2.5 inches, with common dimensions being 1x1.5 or 2x2 inches.
- **Design**: Square seals dominate the collection, often featuring animal motifs and inscriptions. Rectangular seals, on the other hand, typically carry only script.
- **Functionality**: Square seals often have two pierced lugs on the back, while rectangular ones have a central hole—suggesting they were worn or hung, possibly for identification or administrative use (Jyothsna, 2025).

Symbolism and Script

The seals are adorned with a rich variety of animal figures—bulls, elephants, rhinoceroses, and the iconic "unicorn"—each possibly representing clans, professions, or spiritual beliefs. Above or beside these figures appears the Indus script, a still undeciphered writing system that hints at a sophisticated mode of record-keeping or ritual communication (Hirst, 2019; Rao et al., 2009).

Interestingly, many seals were carved in reverse (intaglio), so that when pressed into clay or other soft materials, the resulting impression would appear correctly oriented. This technique mirrors modern stamp-making and suggests their use in trade, ownership, or official documentation (Jyothsna, 2025).

Social Significance

The sheer number of seals discovered implies that they were widely used—perhaps every individual or household possessed one. This points to a society where personal identity, property, and bureaucratic systems were well established. The seals may have served as:

- **Trade markers** for goods and merchants
- **Administrative tools** for record-keeping
- **Personal emblems** of status or lineage
- **Ritual objects** with symbolic or religious meaning (Jyothsna, 2025)

Legacy and Interpretation

Though the Indus script remains undeciphered, the seals continue to fascinate archaeologists, historians, and linguists. They are not just relics of stone—they are silent witnesses to a civilization that valued order, symbolism, and artistic precision (Hirst, 2019).

Their continued study may one day unlock the secrets of the Indus Valley's language and governance, offering a clearer picture of how ancient Sindh contributed to the foundations of human civilization (Rao et al., 2009).

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Maritime Trade of the Indus Valley Civilization

From Dugout Canoes to Transoceanic Voyages

The Indus Valley Civilization (IVC), flourishing between 2600–1900 BCE, was not only a marvel of urban planning and craftsmanship but also a pioneer in maritime trade. Long before the Phoenicians were credited with inventing seafaring, archaeological evidence from Sindh suggests that the people of the Indus Valley had already developed sophisticated techniques for navigation, shipbuilding, and international commerce (Hall, 1928; Hitti, 1951).

Early Boats and Riverine Mobility

In prehistoric times, early humans crafted small boats by hollowing out large tree trunks using stone axes and chisels. These dugout canoes allowed for hunting and travel across rivers and

lakes, facilitating interregional movement and cultural exchange (Anonymous, n.d.).

Challenging the Phoenician Narrative

Traditionally, the Phoenicians—also known as Canaanites—were considered the first seafarers, operating along the coasts of present-day Syria, Lebanon, and Israel. However, excavations in Sindh have revealed that maritime practices existed in the Indus Valley long before Phoenicia emerged. Some scholars even propose that Phoenician civilization may have originated from migrants out of the Indus region, who carried advanced nautical knowledge westward (Hall, 1928).

Dr. H.R. Hall asserts that Sindhi mariners traded extensively with regions such as Deccan, Ceylon, India, China, Iran, Iraq, Yemen, and Egypt. Babylonian and Assyrian tablets confirm close ties between the Indus and Sumerian civilizations (Hall, 1928).

Mythical Encounters in Mesopotamia

When Sindhi traders arrived in Sumer, the locals—unfamiliar with ships—referred to them as "Oannes," mythical beings part human and part fish. Babylonian texts describe these visitors as aquatic creatures, astonished by their attire and seafaring vessels (Siecus, n.d.).

Harappan Ports and Shipyards

Two major maritime hubs—Sutkagen Dor and Shadi Kaur—linked Sindh with Mesopotamia. Excavations at Lothal revealed a sophisticated dockyard built with baked bricks, indicating advanced shipbuilding and harbor engineering (Stein, 1931; Wheeler, 1947).

Commercial Networks and Urban Planning

Stuart Piggott observed uniformity in bricks, pottery, and script across cities like Mohenjo-daro, suggesting a dominant merchant class that established trade routes and overseas outposts (Piggott, 1950).

Babylonian records mention Sindh's fine muslin, known as "Sindhu," which was exported in

exchange for foreign goods. Sindhi merchants also traded spices, coconuts, and perfumes (Majumdar, 1955).

Shell Trade and Industrial Exchange

Dr. Jonathan Mark of the University of California confirmed that Indus Valley residents traded conch shells and ornaments with Afghanistan, Mesopotamia, and Iran via maritime routes. A 6,000-year-old shell necklace found in Makran supports this claim (Mark, 1981).

Exotic Exports

Beyond textiles, Sindh exported medicinal herbs, black silajit, ivory, and animal products. Monkeys, peacocks, and ivory were reportedly traded as far as Jerusalem (Shaidai, n.d.).

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Foreign Trade Goods of the Indus Valley Civilization

Multicultural Exchange, Maritime Networks, and Technological Innovation

The Indus Valley Civilization (IVC), flourishing between 2600–1900 BCE, was a dynamic center of trade, culture, and technological advancement. Archaeological and historical evidence reveals that its people exported a wide range of goods and maintained extensive trade networks with Mesopotamia, Egypt, Central Asia, and beyond.

Early Exports and Global Reach

As early as 3000 BCE, the city of Kot Diji exported cotton textiles, wood, and henna to Mesopotamia. Egyptian pharaohs reportedly used Sindhi henna for ceremonial body decoration, as

confirmed by traces found on ancient mummies (Panhwar, 2011).

K.M. Sen notes that the founders of the Indus Civilization were literate and skilled in metallurgy, using silver, copper, tin, and bronze. They had a thriving merchant class and were highly proficient in crafts. Chanhu Daro was famously known as the “City of Jewels,” producing ornaments from gold, silver, and copper (Panhwar, 2011).

Japanese Research and Urban Networks

A five-year study led by Professor Emeritus Toshiki Osada of Kyoto’s Research Institute for Humanity and Nature involved 40 researchers from multiple countries. Excavations at two ancient Indus sites in India revealed a decentralized trade network among cities, fostering multicultural and multilingual interactions (Osada, 2013).

Contrary to earlier beliefs in centralized governance, Osada’s team found that the civilization operated through loosely connected communities bound by mutual respect for language, culture, and economic interests. The

five major urban centers identified were Ganweriwala (Pakistan), Dholavira (Gujarat), Rakhigarhi (Haryana), Mohenjo-daro, and Harappa (Nikkei Asia, 2013).

Professor Hideaki Maemoku of Hosei University emphasized that Indus settlements were not only located along major rivers but also near smaller water channels, many of which have since disappeared. Dholavira showed evidence of maritime trade with Mesopotamia, and its proximity to the sea allowed direct contact with foreign merchants (Nikkei Asia, 2013).

Transport and Trade Infrastructure

Mohenjo-daro functioned as a major trade hub. Numerous bullock carts and cattle bones found at the site suggest their use in transporting goods. Seals depicting boats confirm the presence of watercraft and navigational expertise (Kenoyer, 1986).

Goods were transported via bullock carts, boats, and canal networks. The Indus River was ideal for navigation, and large wooden boats likely carried goods between cities. Though perishable,

evidence such as boat imagery on seals confirms their existence.

Imports and Trade Routes

The Indus Valley imported various luxury and industrial items not locally available. These included:

- **Marble** – Rajputana
- **Gold** – South India, Afghanistan, Iran
- **Silver** – South India, Afghanistan, Armenia
- **Copper** – South India, Rajputana
- **Tin** – Afghanistan, Iran
- **Turquoise** – Iran, Khorasan
- **Surgical stone** – Kathiawar, Balochistan
- **Ruby** – South India
- **Slate** – Rajputana
- **Agate** – Rajputana, Kathiawar, Kashmir (Panhwar, 2011)

Technological Innovation in Transport

The economy of the Indus Valley was deeply rooted in trade, which led to innovations in transport. It was the first civilization to use the

wheel for transportation, inventing the bullock cart—a major technological leap. According to Petraglia and Allchin (2007), the people of the Indus Valley developed carts and boats specifically for trade purposes.

Small boats, similar to those still used by fishermen in the Indus River today, were common. Archaeological evidence from Lothal confirms the existence of a dockyard, and canal networks based on natural water channels supported inland navigation.

The Copper Age in the Indus region began around 4300 BCE, during which trade extended to Turkmenistan and southern Iran, as confirmed by findings in those regions (Petraglia & Allchin, 2007).

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Origins of Script and Language in the Indus Civilization

The earliest traces of human writing across ancient civilizations reveal a common origin: the depiction of ideas through images. Before the invention of formal scripts, humans learned to draw shapes and figures to represent sounds, actions, and concepts. This pictorial method, known as pictography, was foundational to the development of writing systems in Mesopotamia, Egypt, and notably, the Indus Valley Civilization (Miller, 2016).

In pictographic writing, each sound or utterance was represented by a distinct image. These images were then combined to form words or sentences. For example, to convey the idea that a man killed a lion, one would depict a lion with a spear piercing its abdomen, and a man standing beside or behind it. The lion's posture would suggest pain or death, making the message visually intelligible. Such symbolic representation laid the groundwork for script development. Without the ability to draw, humans would not

have progressed toward writing systems (Langdon, 1931).

Archaeological excavations in Sindh, particularly at Amri, have revealed pottery with incised markings that resemble early script. These markings, found in the lower layers of Amri and continuing into the urban phase of Mohenjo-daro, suggest a continuity of symbolic expression. A total of 39 inscriptions have been discovered on Amri pottery, some of which bear resemblance to the script found at Mohenjo-daro (Possehl, 1996).

During the same period when cuneiform script was flourishing in Mesopotamia and hieroglyphics in Egypt, the Indus Valley was developing its own pictographic script. According to Mark Miller, over 985 distinct signs have been found on seals, tablets, stone weights, and metal fragments from Indus urban centers. Despite extensive research, these signs remain undeciphered, leaving the spoken language of the Indus people a mystery (Miller, 2016).

The pictographic script of the Indus Valley likely influenced writing systems in West Asia. Scholars suggest that the Sumerians, who had close cultural ties with the Indus people, adopted and adapted this script. Prior to the excavation of Mohenjo-daro, it was widely believed that writing

originated in Mesopotamia, particularly in the city of Uruk around 3500 BCE, where German archaeologists discovered pictographic inscriptions on clay tablets (Woolley, 1934).

Comparative studies reveal striking similarities between the Indus script and those of ancient Sumer, Hittite Anatolia, and Egypt. The Hittite script discovered in Asia Minor, as well as early Egyptian inscriptions, show notable parallels with Indus signs. Even inscriptions found on Easter Island and the Nicobar Islands in the Pacific Ocean bear resemblance to the Indus script, suggesting a far-reaching cultural influence (Langdon, 1931).

Professor S. Langdon of Oxford University posited that the people of Mohenjo-daro had maritime connections with the Pacific, and that the script found on Easter Island may be a derivative of the Indus script. Similarly, the script of the ancient Maya civilization in the Americas shares visual and structural features with the Indus script, implying that the ancient Sindhi people may have migrated and disseminated their language and writing across vast regions (Langdon, 1931; Kramer, 1963).

During the peak of the Indus Civilization, many inhabitants migrated to other regions. Some moved northward into Punjab and beyond, while

others crossed into Iran and Mesopotamia. Tribes also traveled by sea to Sumer, Babylon, Nineveh, and Phoenicia. Scholars believe that the Phoenicians, or Punic people, were descendants of the Indus Valley migrants. They developed the alphabetic systems that later influenced European languages. In India, the Brahmi script is thought to have evolved from the original pictographic script of the Indus Valley (Woolley, 1934; Kramer, 1963).

Linguists now agree that many signs in the Sumerian script are derived from the Indus pictographs, which the Sumerians adapted to their own phonetic system. Leonard Woolley and Noah Kramer argue that the Sumerians migrated from the East and settled along the Euphrates. Herodotus also believed that the Phoenicians arrived by sea from the coasts of the Indian Ocean. Biblical accounts suggest that the descendants of Noah migrated from the East to settle in Shinar (Babylon), further supporting the theory that these were people of Sindh, whose civilization was the most advanced in the East at that time (Herodotus, ca. 440 BCE; Kramer, 1963).

These migrating tribes carried with them their original language, script, seals, and inscriptions. Over time, they repurposed these symbols, assigning new meanings and phonetic values, thus giving rise to new writing systems. In

the Hittite language, not only do the signs resemble those of the Indus script, but many words are identical to ancient Sindhi, despite the Hittite civilization emerging approximately 2,500 years after Mohenjo-daro (Possehl, 1996).

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Scholarly Disagreements on the Language and Script of the Indus Civilization

There is considerable disagreement among linguists regarding the language spoken by the people of the Indus Civilization. The primary reason for this is the inability to decipher the inscriptions found at Mohenjo-daro and other ancient sites. The people of the Indus Valley used stone tablets, leather, cloth fragments, and wooden planks for writing large documents. Over time, these materials decayed, burned, or disintegrated into the soil. As a result, very few concrete evidences of their language and script have survived. The seals and other linguistic artifacts that have been discovered are limited and incomplete. Some tablets and seals are broken into fragments, while others contain only one or two symbols.

Were the People of the Indus Civilization Illiterate? A Hypothesis

Some scholars have even claimed that the symbols found in the Indus Valley are not a script or language at all, but merely non-linguistic signs. Among these scholars are Richard Sproat, Michael Witzel, and Steve Farmer, who outright deny the existence of any writing system among the Indus people. According to them, the inhabitants of the Indus Valley were illiterate and had no formal script (Farmer, Sproat, & Witzel, 2004). They argue that the symbols should no longer be considered a script, as they were used solely for religious, political, or social purposes and had no linguistic or mnemonic function. Since no long texts have been found, they contend that these signs do not represent a writing system. They also reject the hypothesis that the world's first alphabet originated in the Indus Valley.

Evidence Supporting a Writing System

Renowned scholar of ancient scripts, Asko Parpola, has refuted the theory proposed by Farmer, Sproat, and Witzel. He asserts that the people of the Indus Civilization did possess a writing system. According to Parpola, dismissing

the existence of a script based solely on the brevity of inscriptions is illogical. Although the average Indus inscription contains only five signs, this is sufficient for expressing short noun phrases. We cannot expect complete sentences on seals and other preserved items. Even so, noun phrases are enough to validate the presence of a language-based script (Parpola, 1994). He further notes that Egyptian hieroglyphs also consisted of short inscriptions, often with only two or three signs, yet they are recognized as a legitimate script.

Parpola also rejects the argument that the absence of writing tools such as brushes or pens proves the nonexistence of a script. He suggests that such tools may have existed but later decayed or were destroyed. Inscriptions on Harappan pottery indicate the use of brushes. Evidence from bangles and other items found at sites like Surkotada and Balakot also supports the use of brushes, which may not have survived over time.

It is implausible that the merchants and elite classes of the Indus Valley, who had trade relations with literate civilizations like Mesopotamia, did not develop a writing system of their own. Scholars believe that the Indus people likely wrote longer texts on cloth, leather, or other

perishable materials that did not survive. Only those inscriptions on seals and pottery have remained intact.

According to Parpola, the symbols of the Indus script were not confined to a single site but have been found across a wide geographical area. These inscriptions show consistency, indicating that the signs carried meaning and were used by people in distant regions for trade or administrative purposes. This suggests that the Indus script was uniformly used throughout the civilization. Parpola argues that if these signs were not part of a script, it would be unlikely for people in different regions to use the same symbols simultaneously.

Support from Other Scholars

Prominent archaeologist Massimo Vidale has also rejected the theory of Farmer, Sproat, and Witzel. According to Vidale, their hypothesis is based on speculation and lacks empirical support (Vidale, 2007). Through his research, Vidale has demonstrated that the Indus Civilization did indeed have a writing system.

Indian linguist Iravatham Mahadevan has also refuted the claim that the people of the Indus Valley were illiterate. He considers the debate initiated by Farmer and his colleagues to be unnecessary. In his response paper, Mahadevan argues that strong archaeological and linguistic evidence exists to show that the Indus script was a structured writing system representing the language of a region (Mahadevan, 2002).

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Hypotheses Regarding the Language of the Indus Valley Civilization

Following the excavation of Mohenjo-daro, scholars began proposing various hypotheses about the language of the Indus Valley Civilization—often before deciphering the inscriptions found at these sites. Many of these assumptions lacked empirical or linguistic justification. Some researchers classified the language as a branch of Semitic languages, while others confidently linked it to Sanskrit.

European linguists who arrived in India initially studied Sanskrit and, based on limited comparative analysis, began categorizing regional languages as derivatives of Sanskrit. If a language showed even slight resemblance to Sanskrit, it

was hastily labeled as its sister or daughter. Observing certain features of Sindhi in Tamil, Telugu, and Kannada, some scholars grouped Sindhi with Dravidian languages. Others, noting similarities between Sindhi and Sanskrit, assumed Sindhi was derived from Sanskrit. However, these claims lacked archaeological and linguistic evidence. The civilizations associated with Tamil, Telugu, and Kannada are significantly younger than the Indus Civilization and appear juvenile in comparison.

As excavations at Mohenjo-daro, Harappa, and other Indus Valley sites progressed, new inscriptions and discoveries began to challenge these earlier European theories. While some scholars revised their views, others remained ideologically rigid. Religious orthodoxy influenced interpretations: Hindu scholars insisted Sindhi was derived from Sanskrit or Dravidian languages, while some Muslim scholars attempted to link Sindhi to Arabic or Semitic roots. Meanwhile, Tamil linguists, driven by ethnic pride, argued that the language of the Indus Civilization was Tamil-Dravidian.

Five Major Linguistic Hypotheses

Scholars have proposed five major hypotheses regarding the origin of the Sindhi language:

1. **Ernest Trumpp's Hypothesis**: Trumpp claimed Sindhi originated from the Vrachada Apabhramsha dialect of Sanskrit. Proposed over 150 years ago, this theory was later rejected by a majority of linguists after extensive research (Trumpp, 1872).
2. **George Grierson's Expansion**: Grierson supported Trumpp's view and popularized it in Sindh. Bhai Bherumal Mehrchand Advani further promoted this theory through two books, asserting that Sindhi belonged to the Northwestern Indo-Aryan group and was directly linked to Vrachada Apabhramsha Prakrit (Grierson, 1919).
3. **Dr. Nabi Bakhsh Baloch's Hypothesis**: Baloch proposed that Sindhi was a pre-Sanskrit Indo-Aryan language rooted in the ancient Indus Valley (Baloch, 1980).
4. **M. K. Jetley's Hypothesis**: Jetley suggested that Sindhi descended from an ancient Indo-Aryan linguistic lineage (Jetley, 1982).
5. **Sirajul Haq Memon's Hypothesis**: Memon argued that Sindhi was the original language of the Indus Valley and that

Sanskrit was derived from Sindhi, making it the daughter language (Memon, 1990).

6. **Dr. Ghulam Ali Allana's Hypothesis**: Allana maintained that Sindhi's roots lie in the Indus Valley Civilization itself. According to him, Sindhi did not evolve from any other language but was the native tongue of the Indus people (Allana, 1995).

Archaeological Evidence

Approximately 800 seals and tablets have been discovered from Mohenjo-daro and Harappa, bearing symbols, images, and inscriptions. Among these, around 400 distinct signs have been identified, representing the script of that era (Hunter, 1934).

Scholars such as G. R. Hunter, Mackay, Sidney Smith, and C. J. Gadd have concluded that the Brahmi script evolved from the Sindhi script of Mohenjo-daro. Hunter even suggested that Brahmi, Sabaean, Safaitic, Cypriot, and Phoenician scripts all originated from the Sindhi script. He further proposed that the Sindhis may have had maritime dominance extending to the Persian Gulf, referencing biblical accounts of a treaty between King Hiram and Prophet Solomon that

allowed Phoenician (Sindhi) people to establish a settlement at Ezion-Geber (Hunter, 1934).

Computational and Linguistic Research

In the 1970s, Finnish scholars Asko Parpola, Simo Koskenniemi, Simo Parpola, and Pentti Aalto claimed to have deciphered the ancient script of Mohenjo-daro, classifying it as Dravidian. Their conclusion was based on the presence of Sindhi words in Dravidian languages. However, they overlooked the possibility that ancient Sindhi influenced Dravidian languages, and that the language of Mohenjo-daro was proto-Sindhi (Parpola, 1994).

Russian and Finnish scholars, including Parpola and Mahadevan, used computational methods to interpret the script. They claimed that the language of Mohenjo-daro was the mother of Dravidian languages. Parpola published readings of several seals and argued that the Indus script belonged to a language within the Dravidian family. However, because he based his approach on Dravidian languages, he has not yet succeeded in fully deciphering the script.

Indian linguist Iravatham Mahadevan, a Tamil scholar, also attempted to decipher the Indus script using Tamil and Brahmi as a base. Like Parpola, he has not yet succeeded. Mahadevan himself rejects the idea that the people of Tamil Nadu are the true heirs of the Indus Civilization. He believes that the current inhabitants of the Mohenjo-daro and Harappa region are the actual descendants, though their language and culture may have evolved over time (Mahadevan, 2002).

Computational Linguistics and Bias

Indian-American computer scientist Rajesh P. N. Rao from the University of Washington has conducted computational research on the Indus script. Rao and his colleagues, who hail from southern India, focused on interpreting the script through a Dravidian lens. However, elements of Hindu religious and ethnic bias are evident in their approach, which revolves around the Dravidian hypothesis.

According to Rao and his team, the Indus script flourished between 2600–1900 BCE in South Asia. The civilization left behind approximately 4,000 inscriptions on seals, tablets, pottery, stone vessels, copper items, tools, weapons, and wood.

These inscriptions are relatively short, averaging five signs in length, with the longest containing 17 signs. The estimated number of distinct signs in the script is around 400 (Rao et al., 2009).

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Reassessing the Linguistic Claims: Indus Valley Script and Its Alleged Semitic Connections

Abstract

This paper critically examines the claims made by Molana Abu Jalaal Nadvi regarding the linguistic and scriptural origins of the Indus Valley Civilization (IVC). Nadvi proposed that the IVC language and script are rooted in Semitic traditions, particularly Arabic and Hebrew. While his assertions reflect a broader ideological attempt to align ancient South Asian heritage with Islamic narratives, this paper argues that such claims lack empirical support. Drawing on archaeological, linguistic, and historiographical evidence, the paper demonstrates that Nadvi's conclusions are speculative and not grounded in scientific methodology.

Introduction

The Indus Valley Civilization, one of the world's earliest urban cultures, flourished between 2600 BCE and 1900 BCE across present-day Pakistan and northwest India. Despite extensive archaeological discoveries—including cities like Mohenjo-daro and Harappa—the civilization's script remains undeciphered, and its linguistic affiliations are still debated. Among the many hypotheses, Molana Abu Jalaal Nadvi's claim stands out for its ideological framing: he argued that the IVC script and language are Semitic in origin, specifically Arabic and Hebrew (Nadvi, 1953). This paper seeks to evaluate the validity of Nadvi's claims through a multidisciplinary lens.

Literature Review

Mainstream Scholarship on the Indus Script

Most scholars agree that the Indus script is logo-syllabic or pictographic in nature, consisting of over 400 distinct signs found on seals, pottery, and tablets (Parpola, 1994). Attempts to decipher the script have explored connections with

Dravidian languages (Mahadevan, 2003), early Indo-Aryan dialects (Witzel, 2000), and even Munda languages. However, no consensus has emerged due to the absence of bilingual inscriptions and limited textual length.

Nadvi's Contributions and Ideological Context

Molana Abu Jalaal Nadvi, writing in the mid-20th century, proposed that the IVC language was a precursor to Arabic and that the script evolved into an alphabetic system resembling Arabic calligraphy. In his articles such as "Qadeem Sindhi Noshtee" and "Fun-e-Kitabt," Nadvi argued that the people of the Indus Valley were adherents of Abrahamic monotheism and that their language was proto-Arabic (Nadvi, 1953). His work reflects a broader trend in post-colonial Islamic scholarship that sought to integrate South Asian antiquity into Islamic historical narratives (Ahmed, 2009).

Methodological Critique

Lack of Linguistic Evidence

Nadvi's hypothesis lacks the foundational elements of comparative linguistics. Semitic languages such as Arabic and Hebrew are phonetic and alphabetic, whereas the Indus script is non-phonetic and pictographic. There is no evidence of shared phonemes, syntax, or lexicon between the IVC inscriptions and Semitic languages (Witzel, 2000). Furthermore, Nadvi did not employ linguistic reconstruction or statistical analysis, which are essential tools in decipherment studies.

Archaeological Discrepancies

Archaeological findings from the Indus Valley show no cultural or religious artifacts that suggest Semitic influence. The civilization's material culture—beads, seals, terracotta figurines, and urban planning—reflects indigenous development rather than external borrowing (Kenoyer, 1998). While trade with Mesopotamia is documented, linguistic convergence cannot be inferred from commercial exchange alone.

Ideological Bias

Nadvi's framing of the IVC as an Islamic precursor appears to be driven by religious and nationalistic motivations. His assertion that the people of Mohenjo-daro were followers of the Abrahamic faith lacks archaeological and textual support. Such claims risk distorting historical inquiry by subordinating evidence to ideology (Ali, 2011). This approach also marginalizes indigenous South Asian traditions and languages, including Dravidian and pre-Vedic cultures.

Comparative Analysis

Semitic vs. Indus Script

Feature	Semitic Languages (Arabic/Hebrew)	Indus Script
Script Type	Alphabetic	Pictographic/Logo-syllabic
Phonetic Representation	Yes	Unconfirmed
Deciphered	Fully	Undeciphered
Religious Affiliation	Abrahamic	Polytheistic/Animistic (assumed)

Feature	Semitic Languages (Arabic/Hebrew)	Indus Script
Cultural Artifacts	Textual, religious	Secular, trade-based

Despite superficial visual similarities in some signs, the structural and functional differences between the two systems are profound.

Implications for Historical Scholarship

Nadvi's claims highlight the tension between ideological narratives and empirical research in South Asian historiography. While cultural pride and religious identity are valid dimensions of historical interpretation, they must not override methodological rigor. The Indus Valley Civilization deserves to be studied on its own terms, through archaeology, linguistics, and anthropology—not retrofitted into modern religious frameworks.

Conclusion

Molana Abu Jalaal Nadvi's thesis that the Indus Valley script and language are Semitic in origin is not supported by linguistic, archaeological, or historical evidence. His work reflects an ideological attempt to align ancient South Asian heritage with Islamic narratives, but lacks the methodological rigor required for scholarly acceptance. Future research must prioritize interdisciplinary approaches and resist the temptation to conflate cultural identity with historical fact.

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Proto-Sindhi as the Language of the Indus Valley Civilization: A Critical Reassessment

Abstract

This paper examines the hypothesis that the language of the Indus Valley Civilization (IVC) was Proto-Sindhi—a linguistic ancestor of modern Sindhi. Drawing on archaeological, linguistic, and cultural evidence, the study challenges dominant theories that link the IVC language to Dravidian or Indo-Aryan families. It highlights the perspectives of Pakistani scholars such as Ahmad Hasan Dani, Sirajul Haque Memon, Ghulam Ali Allana, and M.H. Panhwar, who argue for a local linguistic continuity rooted in Sindh. The paper concludes that the Proto-Sindhi hypothesis deserves renewed scholarly attention as a plausible framework for deciphering the Indus script.

Introduction

The Indus Valley Civilization, flourishing between 2600 BCE and 1900 BCE, remains one of the most enigmatic ancient cultures due to its undeciphered script and uncertain linguistic affiliations. While many scholars have proposed Dravidian or Indo-Aryan origins for the IVC language (Parpola, 1994; Mahadevan, 2003), a growing body of Pakistani scholarship suggests that the language was indigenous to Sindh and may be best understood as Proto-Sindhi (Hussain, 2012).

Rejection of the Dravidian Hypothesis

Ahmad Hasan Dani, a leading Pakistani archaeologist, rejected the theory that the creators of the Indus Civilization were Dravidians. He argued that the geographical and cultural distance between South India and ancient Sindh makes a direct linguistic link implausible. Dani emphasized that no archaeological evidence of Indus-style artifacts has been found in the Dravidian-speaking regions of South India (Dani, 1998). Indian scholars such as Mahadevan and Parpola have acknowledged this gap but continue to support the Dravidian hypothesis based on linguistic reconstruction (Parpola, 1994).

Proto-Sindhi as a Local Linguistic Continuum

Sirajul Haque Memon, a prominent Sindhi linguist, proposed that the inscriptions found at Mohenjo-daro and other Indus sites represent an early form of Sindhi. In his work, he argued that Sindhi was not derived from any external language but was native to the region and possibly the oldest among South Asian languages (Hussain, 2012). Memon identified Proto-Sindhi as the linguistic ancestor of not only Sindhi but also other regional languages such as Saraiki, Punjabi, and Kashmiri.

Ghulam Ali Allana supported this view by naming the ancient language "Sindhoi," emphasizing its continuity with Sindh's cultural heritage. He argued that the survival of Sindhi culture over 5,000 years implies a parallel linguistic continuity (Allana, 2009).

Linguistic Influence and Regional Spread

The hypothesis gains further support from comparative linguistics. Scholars have noted that

major Dravidian languages such as Tamil, Telugu, and Kannada exhibit features that may have originated in Proto-Sindhi (Hussain, 2012). Moreover, Sindhi predates Sanskrit in its phonological and morphological structure, suggesting that it may have influenced the development of later Indo-Aryan languages.

Evidence from Mesopotamia and Babylon also points to the presence of Sindhi-like linguistic elements, possibly introduced through trade. Similarities between Mesopotamian inscriptions and Indus seals suggest that the language of the Indus Valley may have had a wider regional impact (Hussain, 2012).

Critique of External Decipherment Models

Attempts to decipher the Indus script using Sanskrit, Dravidian, or Semitic models have yielded limited success. Scholars have often relied on languages geographically and temporally distant from the Indus Valley, ignoring the possibility of a local linguistic origin. M.H. Panhwar argued that the current Sindhi language is a continuation of Proto-Indian speech and that its disconnection from Dravidian roots makes it a

more suitable candidate for decipherment (Hussain, 2012).

Conclusion

The Proto-Sindhi hypothesis offers a compelling alternative to dominant linguistic models of the Indus Valley Civilization. Rooted in regional continuity and supported by archaeological and linguistic evidence, it challenges the assumption that the IVC language must be linked to distant language families. Future research should prioritize local languages such as Sindhi, Saraiki, and Punjabi in efforts to decode the Indus script and understand the civilization's linguistic legacy.

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The Religious and Philosophical Foundations of the Indus Valley Urban Civilization

The Indus Valley Civilization, often referred to as Sindhu Maathar in South Asian historiography, presents a unique case in the study of ancient urban societies. Unlike many contemporaneous civilizations where religion played a central role in governance and social organization, the Indus Valley appears to have prioritized commerce, agriculture, and material life over spiritual doctrines. This article explores the religious and philosophical outlook of the Indus Valley people, drawing from archaeological evidence and scholarly interpretations.

Materialism Over Spiritualism

The inhabitants of the Indus Valley were primarily agriculturists and traders, which shaped their worldview in distinctly materialistic terms.

Unlike the spiritual emphasis found in Mesopotamian or Egyptian civilizations, the Indus society valued the body over the soul, the earth over the heavens, and multiplicity over unity (Ashraf, 1951). Their reliance on trade and agriculture made them less dependent on divine intervention, and more focused on tangible, earthly processes.

Stuart Piggott (1950) argues that the political ideology of the ruling class in the Indus Valley was secular in nature. The absence of grand temples or centralized religious structures in major cities like Mohenjo-daro and Harappa supports this view. Professor K.M. Sen also notes that excavations have not revealed any communal worship sites, suggesting that religion was not institutionalized in the same way as in other ancient cultures (Ashraf, 1951).

Fertility Symbols and Earth Worship

Despite the secondary role of organized religion, symbolic representations of fertility and creation were prominent. The bull and the figure of Shiva (interpreted from seal iconography) were revered as symbols of agricultural fertility. These symbols were not merely religious but reflected

the agrarian lifestyle and the importance of reproduction and sustenance (Marshall, 1931).

The philosophical concept of creation in the Indus Valley was rooted in material dialectics. Fertility was celebrated through seasonal rituals, particularly in spring, when nature's regenerative powers were most visible. Sexual union was seen as a sacred act of creation, paralleling the sowing of seeds in the earth. This materialist view contrasts with the spiritual or metaphysical interpretations of creation found in other ancient civilizations (Ashraf, 1951).

The Feminine Principle and Lingam Worship

The earth was personified as a maternal figure—Dharti Mata—who nourished both humans and animals. This led to the veneration of women as life-givers, aligning the feminine body with the fertile land. The worship of the lingam, a phallic symbol associated with generative power, further illustrates the civilization’s emphasis on physical creation and fertility (Marshall, 1931).

Artifacts from Mohenjo-daro include figurines depicting male and female forms in

intimate poses, reinforcing the cultural importance of reproduction and the sanctity of the body. One notable sculpture shows a woman in a birthing posture, with a plant emerging from her reproductive organ—an emblem of life and continuity (Marshall, 1931).

Conclusion

The Indus Valley Civilization's religious and philosophical outlook was deeply intertwined with its material conditions. Rather than constructing elaborate religious institutions, the people expressed their beliefs through symbols of fertility, agricultural cycles, and reverence for the earth. Their worldview was pragmatic, rooted in the rhythms of nature and the necessities of trade and sustenance. This secular and materialist orientation sets the Indus Valley apart from other ancient civilizations and offers a compelling lens through which to understand its cultural legacy.

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The Role of Women in the Indus Valley Civilization: A Feminine-Centric Social Order

The Indus Valley Civilization (IVC), flourishing between 2600–1900 BCE, presents a compelling case of a society where women were not only respected but held central roles in social, economic, and spiritual life. Unlike many ancient civilizations that institutionalized patriarchy, the IVC appears to have embraced a matrifocal worldview rooted in agricultural innovation, reverence for fertility, and symbolic alignment between womanhood and the earth.

Women as Central Figures in Society

Archaeological evidence from Harappa and Mohenjo-daro suggests that women were regarded as powerful and central to societal structures. Professor Jonathan Mark Kenoyer

(2013) notes that burial practices in Harappa include instances where men were buried alongside deceased women, implying the woman's elevated status in life and death. This practice contrasts with later patriarchal traditions in South Asia, where women were often buried with their husbands, reflecting subordination (Ashraf, 1951).

James Shaffer, a scholar of Indus script and society, argues that compared to other ancient civilizations, the IVC granted women a superior status, with decision-making roles and social respect (Ashraf, 1951). In contrast to the subjugation of women in contemporary societies, Indus women were seen as agents of creation and continuity.

Earth, Fertility, and the Feminine Principle

The absence of temples, idols, or dominant religious iconography in Indus cities suggests that the civilization's spiritual beliefs were rooted in nature and fertility rather than organized religion (Moura, 1995). The Earth Mother concept—where both woman and soil were seen as sources of life—was central to their cosmology. Women were the original agriculturalists, initiating the

cultivation of plants and the domestication of land (Ashraf, 1951).

This symbolic alignment between women and the earth led to the worship of both as life-giving forces. The reverence for fertility is evident in figurines and iconography, where female forms are depicted in birthing postures or associated with vegetation (Marshall, 1931).

Transition from Matrifocal to Patriarchal Society

Initially, the IVC operated as a “mother-centric” society, where women held authority in agriculture and social organization. However, as agricultural systems became more complex and surplus production increased, men began to dominate land ownership and labor. This shift led to the rise of patriarchal norms and the decline of matrifocal values (Piggott, 1950).

With the consolidation of private property and male dominance, society became stratified. Religion emerged as a tool to legitimize wealth and power among the upper classes. The fear of unseen forces and promises of rewards in the afterlife were used to pacify lower classes,

marking the rise of institutionalized religion (Ashraf, 1951).

Religious Tolerance and Secular Governance

Unlike the later Vedic period, the IVC did not institutionalize religion within its civic structure. As Moura (1995) observes, no large temples or state-sponsored religious sites have been found in Mohenjo-daro, suggesting that religion was a private affair. The state did not enforce religious conformity, and spiritual beliefs were diverse and decentralized.

Absence of Human Sacrifice

Anthropologists like Frazer and Tylor have documented human sacrifice in early civilizations such as Egypt, Mesopotamia, and Mesoamerica. However, no evidence supports the existence of such practices in the Indus Valley. The IVC's rituals were celebratory and life-affirming, focused on seasonal cycles and agricultural abundance rather than sacrificial rites (Ashraf, 1951).

Conclusion

The Indus Valley Civilization stands out as a society where women were central to both material and spiritual life. From agricultural innovation to symbolic reverence, women shaped the cultural ethos of early South Asia. The eventual shift to patriarchy and religious orthodoxy marked a transformation, but the legacy of the IVC's feminine-centric worldview continues to inform historical and feminist scholarship.

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Trans regional Connections of the Indus Civilization: Migration, Cultural Diffusion, and Linguistic Legacy

Abstract

This article explores the transregional interactions of the Indus Valley Civilization, focusing on patterns of migration, cultural exchange, and linguistic influence. Drawing from archaeological, linguistic, and climatological evidence, it argues that the people of the Indus Valley were active agents in shaping early civilizations across South and Southeast Asia, including Australia and Indonesia. The study highlights the role of environmental shifts, trade routes, and seafaring in facilitating these connections.

Introduction

Scholars of ancient civilizations and historical linguistics have long been intrigued by the striking similarities among early cultures across continents. These parallels—found in language, rituals, and genealogical traditions—suggest that humanity may have originated from a shared cultural nucleus, later diversified by climatic and geographical factors. However, many historians now argue that such similarities are not merely coincidental but stem from ancient migrations, settlements, and trade relations (Frgossen, n.d.).

Migration and Cultural Parallels

The material remains of ancient Egypt, Mesopotamia, and the Indus Valley—particularly in architecture, inscriptions, and everyday tools—reveal profound similarities. These findings support the theory that ancient peoples migrated due to environmental pressures such as droughts, floods, and earthquakes, which transformed fertile lands into deserts and vice versa (Blunden, n.d.). Population growth also contributed to these movements, prompting communities to seek new habitats.

Fergusson emphasized that numerous tribes and castes migrated from the Indus region via the river routes, spreading civilization across distant lands (Frgossen, n.d.). This diffusion is evident in the linguistic and cultural imprints found in various regions, suggesting that the people of the Indus Valley were not isolated but part of a dynamic network of human exchange.

The Indus Legacy in Australia

Godfrey Blunden noted that during the Ice Age, sea levels dropped significantly, exposing land bridges between South Asia and Australia. This allowed animals and early humans from the Indus region to migrate to Australia (Blunden, n.d.). As the climate warmed, people from Sindh and southern India moved toward Australia in search of pastures and settlements.

These migrants carried with them the "Son Culture," believed to have existed in the Indus Valley over 500,000 years ago. This culture laid the foundation for the Gambier and Tasmanian cultures in Australia. Thomas Patterson argued that the Son Culture evolved into the Gambierian culture and later influenced the Tasmanian culture during the Pliocene epoch (The Chamber’s

Encyclopaedia, n.d.). Thus, the so-called "Australoid race" may actually descend from the ancient inhabitants of the Indus Valley (Channa, 1973).

Linguistic Evidence and Southeast Asian Connections

Linguists have traced the influence of Proto-Sindhi on Dravidian languages such as Tamil, Telugu, and Kannada. These languages exhibit vocabulary and grammatical features reminiscent of the Indus linguistic heritage. Physical and cultural traits among the inhabitants of Deccan and Chota Nagpur also mirror those of ancient Sindhis.

Furthermore, the name "Indonesia" is believed to derive from "Indus-Nusia," meaning "the land beyond the Indus" (Pathan, 1971). This etymology underscores the deep-rooted connections between the Indus Valley and Southeast Asian archipelagos such as Java, Sumatra, Bali, and Borneo.

Conclusion

The evidence presented affirms that the Indus Valley Civilization was not confined to its geographic boundaries but actively shaped the cultural and linguistic landscapes of regions as far as Australia and Indonesia. Through migration, trade, and maritime exploration, the people of Sindh contributed to the global mosaic of ancient human civilization. Their legacy endures in languages, cultural practices, and historical narratives across continents.

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Connections Between the Indus Civilization and Mesopotamian Civilization

Abstract

This article explores the historical and archaeological connections between the Indus Valley Civilization and Mesopotamian civilization. Drawing on excavations, linguistic parallels, and trade evidence, it argues that the people of the Indus Valley played a foundational role in the development of early Mesopotamian urban centers, particularly Ur and Kish. The study challenges earlier assumptions that the Indus Civilization emerged from Mesopotamia, instead presenting evidence of east-to-west migration and cultural diffusion.

Introduction

Recent excavations in Mesopotamian cities such as Ur (by Leonard Woolley) and Kish (by Professor Langdon) have revealed Bronze Age layers with no signs of earlier human settlement, suggesting these were the first urban centers in Iraq (Samraat, n.d.). This implies that the inhabitants of Mesopotamia had previously developed their civilization elsewhere before migrating to these regions. Robert Briffault noted that Babylon appears fully developed from the outset, indicating that its foundational phase occurred elsewhere (Briffault, n.d.).

The Indus Origins of Sumerian Civilization

Several scholars have proposed that the Sumerian civilization originated from the Indus Valley. Frankfort argued that early Mesopotamians came from the Iranian plateau, whose cultural roots extended into Sindh (Journal, Sindh Historical Society, n.d.). Hall also observed physical and cultural similarities between Sumerians and ancient Indians, suggesting that they migrated via land or sea routes through Persia to settle in the Tigris-Euphrates basin (Hall, n.d.).

Debunking the Mesopotamian-Origin Theory

Before extensive research on Indus sites, some scholars believed the Indus Civilization was an offshoot of Mesopotamian culture. However, archaeologists like M.H. Panhwar refuted this, showing that the Indus Civilization spanned over 500,000 square miles and lasted from 7500 BCE to 1000 BCE—far longer and broader than Nile or Mesopotamian civilizations (Panhwar, 2013).

Leonard Woolley stated that Sumerians settled along the Euphrates from the east, and the eastern region of Iraq borders the Indus Valley, supporting the migration theory. Encyclopaedia Britannica and other sources describe the Sumerians (originally called Shumer or Shuner) as arriving via sea and land, founding civilization in southern Iraq. Babylonian texts refer to them as "Oannes"—half-human, half-fish beings—likely due to their arrival by sea, which astonished locals (Lal, n.d.).

Biblical references also support this view, stating that Noah's descendants came from the east to Shinar, a term linguistically linked to "Sindhur" or "Sindh" (Pecocke, n.d.). Scholars agree that Sumerians were non-Semitic in origin,

differing in language, behavior, and culture (Historian's History of the World, n.d.).

Agricultural and Linguistic Evidence

The earliest Mesopotamian city, Ur, is believed to be derived from the Sindhi word "Har" or "Hari," symbolizing fertility. Sindhi settlers introduced agriculture to Iraq, cultivating land with plows and establishing the city's name based on their tools and practices.

Archaeologists discovered a seal in Kish resembling those from Mohenjo-daro, dating to the Sargon era, inscribed in a script identified as Indus script (Channa, n.d.). Linguistic evidence also supports this connection: the Sumerian word "Ada" meaning "brother" exists only in Sindhi, suggesting cultural and linguistic exchange through trade and settlement (Langdon, 1931).

Trade and Settlement

Sindhi merchants and seafarers established trade routes with Iraq, founding small settlements around 2000 BCE. Artifacts from the Akkadian

period (2334 BCE) in Iraq include Sindhi goods, indicating sustained trade relations. Excavations in Ur have uncovered seals, jewelry, and pottery from Mohenjo-daro and Chanhu-daro, confirming Sindhi presence.

Trade between Sindh and Iraq flourished until the reign of Hammurabi (1892–1750 BCE), after which internal conflict led to Iraq's isolation around 1595 BCE.

Conclusion

The evidence strongly suggests that the builders of Mesopotamian civilization were migrants from the Indus Valley. The cultural, linguistic, and economic ties between Sindh and Iraq were deep and enduring. The Indus Valley was not a recipient of Mesopotamian influence but a source of it, shaping the foundations of Babylonian civilization.

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Connections Between the Indus Civilization and the Gulf States

Abstract

This article explores the historical and archaeological links between the Indus Valley Civilization and the Gulf states—particularly Oman, Bahrain, and Kuwait—as well as regions like Iran, Turkmenistan, and Egypt. Based on excavations, seals, pottery, and other artifacts, it argues that the people of the Indus Valley not only crossed the Arabian Sea but also established trade networks and cultural influence across the Gulf and beyond. The article identifies key trade centers, exchanged goods, and scholarly references to support these claims.

Indus Artifacts in the Gulf

Dr. Rafiq Mughal, a renowned archaeologist, writes in his report “New Light on the Indus Civilization” that excavations in Gulf states such as Oman, Bahrain, and Kuwait reveal that the people of the Indus Valley crossed the Arabian Sea and took control of trade in the region (Mughal, n.d.).

In Bahrain, artifacts discovered at the site of “Tharbury” include pottery, seals, and clay vessels inscribed with the famous script of Mohenjo-daro (Hall, n.d.). Italian archaeologists have found similar items at Oman’s sites “Ras al-Hamra” and “Ras al-Jufayrah.” Likewise, a team working near Kuwait’s coastal island “Failaka” uncovered seals from Mohenjo-daro.

Goods exported from the Indus Valley to these regions included vegetables, cotton, peacocks, copper, and precious stones. Dr. Mughal further notes that seals from the Indus Valley have also been found in Baghdad and Damascus (Panhwar, 2013).

Agricultural and Cultural Influence

According to Dr. Mughal, rice was first introduced to the Gulf states through trade with

the Indus Valley. Dates also reached Arabia via the Indus region, as date seeds were discovered by Sir John Marshall during excavations at Mohenjo-daro (Hall, n.d.).

In Bahrain, French archaeologist Monsieur B. found seals from Mohenjo-daro. More recently, pottery from Mohenjo-daro was discovered on the island of Al-Nar near Oman and Abu Dhabi (Panhwar, 2013).

Trade with Iran, Turkmenistan, and Egypt

The people of the Indus Valley were trading with Iran and Turkmenistan as early as 4300 BCE. According to South Asian archaeology experts Michel D. Petraglia and Bridget Allchin, excavations in Iran and Turkmenistan have yielded seals, jewelry, and handmade pottery linked to the Indus Valley (Lal, n.d.).

Similar evidence has been found in Egypt, indicating trade relations between the Indus Valley and ancient Egypt. Scholars suggest that this trade was conducted through cities of the Indus Civilization located near the Dasht River in present-day Balochistan, such as Sutkagan Dor, Sokhta Koh near Pasni, Balakot near Sonmiani,

and Lothal in Gujarat. These cities served as major international trade hubs (Doniger, 2010; Akhtar, 1983).

Conclusion

The evidence confirms that the people of the Indus Valley not only reached the Gulf states but also established deep and lasting trade relations with regions like Iran, Turkmenistan, and Egypt. Through these connections, they introduced agricultural products and cultural practices. The Indus Civilization's influence extended far beyond its geographic boundaries, and its trade centers were among the most important economic hubs of the ancient world.

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Ethnic Origins of the People of the Indus Valley Civilization

The Indus Valley Civilization (IVC), centered in present-day Sindh, Pakistan, represents one of the earliest cradles of urban life in human history. Contrary to dominant narratives that attribute its development to external ethnic groups such as the Dravidians or Aryans, emerging research and archaeological evidence suggest that the original inhabitants of Sindh—speakers of a proto-Sindhi language—were the true architects of this sophisticated civilization.

Proto-Sindhi Language and Cultural Expansion

The people of Sindh were among the first to develop a written form of their proto-Sindhi language, which is evident in the undeciphered script found on seals and tablets from sites such

as Mohenjo-daro and Harappa. These communities not only pioneered urban planning and trade but also migrated to distant regions, spreading their cultural and linguistic influence. By 1500 BCE, the Indus Civilization had reached its zenith, after which the Vedic period began. However, archaeological and linguistic traces indicate that Sindhi-speaking people had already established trade networks and cultural exchanges with foreign lands long before the Vedic era (Boss, n.d.).

Influence on Southern India

The migration of Sindhi tribes to southern India led to the diffusion of their cultural practices and linguistic elements. Proto-Sindhi influence is still detectable in the Dravidian languages, which contain lexical items traceable to Sindhi roots. This linguistic overlap suggests that the Dravidian-speaking populations absorbed elements of the Indus Civilization rather than originating it. To claim that the Sindhi civilization was a creation of Dravidian peoples would be to reverse the historical causality—akin to placing the cart before the horse.

Skeletal Evidence and Ethnic Continuity

A landmark study by N.K. Boss, published by the Archaeological Survey of India, examined 260 skeletal remains from Harappa. The findings revealed that the physical characteristics of these ancient individuals closely resemble those of modern Sindhis, indicating a strong ethnic continuity (Boss, n.d.). This evidence supports the view that the current Sindhi population are direct descendants of the original inhabitants of the Indus Valley.

Rejection of the Dravidian Origin Theory

Renowned Pakistani archaeologist Dr. Ahmad Hasan Dani refuted the theory that the creators of the Indus Civilization were Dravidians. In an interview conducted in Islamabad on January 6, 1998, Dani emphasized that no archaeological evidence from southern India—home to Dravidian languages—has ever revealed artifacts or urban structures comparable to those found in the Indus Valley. He argued that if Dravidians had migrated from the Indus region, remnants of that civilization should have appeared in southern India, which they have not (Dani, 1998). Indian archaeologist B.B. Lal also

concurred with Dani's conclusions, further discrediting the theory of Aryan invasion as the cause of the civilization's decline.

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The Myth of the Aryan Invasion of Sindh: A Historical Reassessment

Abstract

The theory of an Aryan invasion leading to the destruction of the Indus Valley Civilization has long dominated colonial and post-colonial historiography. This article critically examines the foundations of this theory, arguing that it is not supported by archaeological, linguistic, or scientific evidence. Instead, it posits that the term "Arya" referred to a social class of agriculturalists indigenous to the region, and that the myth of an invading Aryan race was constructed to justify colonial domination and racial superiority.

Introduction

The notion that Aryans invaded Sindh, enslaved its native population, and obliterated its cities and civilization is increasingly viewed as a speculative hypothesis rather than a historical

fact. The idea that the Indus Valley Civilization (IVC) collapsed due to an external Aryan invasion lacks credible archaeological and scientific support.

Deconstructing the Aryan Identity

Contrary to popular belief, the term "Arya" did not denote a race, tribe, or ethnic group. It was a designation for a class of people—primarily agriculturalists—who lived in the Indus Valley region. From the era of Mohenjo-daro through the Vedic period, those who engaged in farming were referred to as Arya, while non-agricultural groups were labeled as Anarya, or uncivilized (Haq, 1984).

The Hindu deity "Hari" is etymologically derived from "Har," symbolizing fertility and prosperity. Thus, in the cultural context of the Indus Valley, Arya denoted those who contributed to population growth and economic stability. In Sanskrit, the word Arya connotes nobility, freedom, and high social status, not racial identity (Haq, 1984).

Colonial Constructs and Racial Politics

European scholars, particularly from Germany and Britain, fabricated the Aryan myth to psychologically subjugate the people of the Indian subcontinent. By claiming descent from a superior Aryan race, colonial powers sought to legitimize their rule and portray themselves as civilizational torchbearers (Haq, 1984). British historians and administrators positioned themselves as heirs of the Aryans, arguing that their dominance over "less civilized" nations was historically justified.

Scientific Refutations

In 1984, Russian mathematician I. E. Veldrovsky presented findings at an international congress in Bucharest, revealing that computer analysis of seals from Mohenjo-daro showed no evidence of Aryan presence (Hilal Pakistan, 1984). Many scholars now agree that the original inhabitants of the Indus Valley were indigenous Sindhi people (Haq, 1984; Moinul Haq, n.d.).

Misinterpretations in Early Archaeology

Initial excavations at Mohenjo-daro led to speculative and racially biased conclusions. British and European archaeologists attempted to link the skeletal remains to European racial types, suggesting that the civilization's founders were migrants from outside South Asia. Scholars like Sir John Marshall, Mackay, Colonel Sewell, and Mr. Guha claimed that skulls found at the site belonged to Mediterranean, Alpine, Mongoloid, and Australoid races, with a majority allegedly from the Mediterranean type (Moinul Haq, n.d.).

These interpretations were not based on robust evidence but rather on colonial desires to disconnect the IVC from its South Asian roots. Hindu scholars, influenced by religious and political tensions, also attempted to associate ancient Sindhi populations with northern Indian groups, distancing them from Muslim communities.

Reversing the Migration Narrative

Earlier theories suggested that Dravidian tribes displaced indigenous groups like the Kol and Santhal, or that migrants from maritime regions

entered via Mesopotamia. However, later research disproved these claims. The people of Mohenjo-daro were not outsiders; they were native Sindhis. In fact, it was the ancient Sindhi populations who migrated outward toward Mesopotamia for trade, not the other way around (Venkat, as cited in Nadvi, n.d.).

The presence of Indus artifacts in foreign lands does not imply foreign origin but rather indicates the reach of Sindhi traders. As Venkat notes, “Ancient tribes did not enter this land via the sea or the Khyber Pass; rather, they were indigenous to this soil, molded from its very clay” (Nadvi, n.d.).

Linguistic and Anthropological Debunking

In 1943, Russian linguist Professor Stetrov examined materials from Asia and the Caucasus and concluded that the Aryan migration theory was a European myth. His research dismantled the racial narrative and reaffirmed the indigenous origins of the Indus Valley people (Haq, 1984).

Conclusion

The Aryan invasion theory is a colonial construct lacking empirical support. The people of the Indus Valley were indigenous Sindhis, and the term "Arya" referred to a social class rather than a race. Reclaiming this narrative is essential not only for historical accuracy but also for restoring the dignity and legacy of Sindh’s ancient civilization.

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Reassessing the Aryan Invasion Theory: Genetic Evidence and Historical Revisionism

Abstract

Recent genetic research conducted by Indian and Estonian scientists has challenged the long-standing Aryan Invasion Theory (AIT), which posits that Indo-European-speaking Aryans migrated into the Indian subcontinent around 1500 BCE, displacing the indigenous people of the Indus Valley Civilization. This article synthesizes findings from cellular and molecular biology, historical linguistics, and Vedic literature to argue that the AIT lacks scientific and textual support. Instead, evidence suggests cultural and linguistic continuity between the Indus Valley Civilization and later Vedic society.

Introduction

The Aryan Invasion Theory has dominated South Asian historiography since the colonial period, proposing that a nomadic Indo-European group invaded or migrated into the Indian subcontinent, bringing with them the Sanskrit language and Vedic culture. This theory has been used to explain the decline of the Indus Valley Civilization and the rise of Vedic society. However, recent interdisciplinary research has begun to dismantle this narrative.

Genetic Research and Its Implications

A collaborative study by the Centre for Cellular and Molecular Biology (CCMB), Hyderabad; University of Tartu, Estonia; and Chettinad Academy of Research and Education, Chennai, analyzed the DNA of over 1300 individuals from 30 ethnic groups across India. The data was compared with genetic samples from West Asia, the Middle East, and the Caucasus. The results showed no evidence of large-scale migration from Central Asia or Europe into India during the supposed Aryan migration period (Thangaraj, as cited in India Today, 2011; Times of India, 2009).

Dr. Kumarasamy Thangaraj, the lead researcher, concluded that there was no genetic trace of Aryan migration into India around 1500 BCE. Similarly, Dr. Lalji Singh, former director of CCMB and Vice Chancellor of Banaras Hindu University, emphasized that the absence of genetic evidence necessitates a rewriting of South Asian history (India Today, 2011).

Colonial Origins of the Aryan Myth

The concept of a superior Aryan race was first introduced by French theorist Joseph Arthur de Gobineau in his 1855 work *An Essay on the Inequality of the Human Races*. This racial hierarchy was later reinforced by Max Müller, a British-German philologist, who claimed that the Aryan race and its language were the foundation of South Asian civilization (Knapp, n.d.; Hindu Online, n.d.).

Müller's linguistic theory of Indo-Aryan languages was adopted by British colonial scholars to justify the notion that the builders of the Indus Valley Civilization were displaced by European-descended Aryans. This theory, however, was rooted more in racial ideology and colonial politics than in empirical evidence (Knapp, n.d.).

Linguistic and Cultural Continuity

The term “Arya” in the Vedas does not denote a racial identity but rather refers to cultured or noble individuals. According to the *Vedic Index*, the word originally meant “ploughman” or “farmer” (Keith & MacDonnell, 1912). Prior to the Vedic period, society was organized around professions rather than caste. Even those later labeled as Shudras were referred to as Arya due to their agricultural roles (Knapp, n.d.).

If the Aryans were foreign invaders, one would expect the Vedas to reference their original homelands. Instead, the texts repeatedly praise Sindh and the Indus River, suggesting that the authors were native to the region. The first Veda was composed along the banks of the Indus, and its language bears traces of Proto-Sindhi. Over time, this evolved into Sanskrit—a refined language formed through the fusion of Proto-Sindhi and local dialects (Keith & MacDonnell, 1912; Haq, 1984).

Refuting the Dravidian Hypothesis

Some Hindu Sindhi writers, such as Bhai Bhairumal, have attempted to link the people of Mohenjo-daro to Dravidian-speaking groups like Tamils, Telugus, and Kannadigas. However, these claims are based on mythological texts rather than scientific evidence (Haq, 1984). Genetic studies have shown that the Indus Valley people were neither Dravidian nor Aryan in the racial sense, but indigenous to the region.

Conclusion

The Aryan Invasion Theory, long upheld by colonial and postcolonial scholars, is increasingly being challenged by genetic, linguistic, and textual evidence. The people of the Indus Valley Civilization were not displaced by foreign Aryans, nor were they Dravidian migrants. Instead, they were the ancestors of later Vedic society, and their cultural legacy continues in the languages, rituals, and literature of South Asia. It is time to revise the historical narrative to reflect this continuity.

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Social Stratification and the Myth of Aryan Conflict in the Indus Valley

Abstract

The long-standing narrative of an Aryan invasion of the Indus Valley Civilization has been increasingly challenged by modern research in genetics, archaeology, and social history. This article explores the internal social dynamics of ancient Sindh around 1500 BCE, arguing that the conflicts described in Vedic texts were not invasions by foreign Aryans, but rather class struggles within a transforming agrarian society. It also examines environmental factors contributing to the decline of urban centers and highlights the continuity of civilization through Jhukar and Jhangar cultures.

Transition from Matriarchal to Patriarchal Society

Around 1500 BCE, the societal structure in Sindh transitioned from a matriarchal to a patriarchal model. As agriculture became more systematized, the concept of private property deepened, leading to the emergence of social classes. This stratification gave rise to tensions between upper and lower classes, which later manifested as internal conflicts. The wars mentioned in the Rigveda were not battles between indigenous people and foreign invaders, but rather class-based struggles within the society itself (Haq, 1984).

The Rise of the Aryan Elite

The term “Arya” originally referred to hardworking agriculturalists within early communal societies. As these individuals accumulated wealth, they began to distance themselves from the egalitarian values of their earlier society. The Aryans, once farmers, became the elite class, exploiting weaker and less

resourceful individuals. This led to the formation of caste-like hierarchies based on wealth and labor, and eventually to social unrest and migration of lower classes to other regions (Keith & MacDonnell, 1912).

It is therefore misleading to interpret these migrations as evidence of foreign conquest. The idea that external Aryan tribes invaded Sindh and displaced its original inhabitants is a colonial-era myth unsupported by archaeological or genetic evidence (Knapp, n.d.).

Indigenous Origins of the Indus Valley People

Recent research confirms that the people of Mohenjo-daro were not Dravidian migrants from northern India, but indigenous Sindhis who laid the foundation of the Indus Valley Civilization. The theory that foreign Aryans attacked and destroyed this civilization has been disproven by both genetic and archaeological studies (India Today, 2011; Thangaraj, as cited in DNA India, 2011).

Environmental Collapse and Urban Decline

Beginning around 1750 BCE, climatic changes led to a prolonged drought in the Indus Valley. Rainfall decreased, river flows diminished, and monsoon-dependent rivers like the Hakra began to dry up. Settlements along these rivers faced water shortages, leading to agricultural decline and gradual migration toward more fertile regions. This arid phase lasted approximately 800 years, severely impacting the region's prosperity (Panhwar, as cited in Haq, 1984).

Despite this decline, urban life did not vanish entirely. Archaeologists have identified the Jhukar and Jhangar cultures as successors to the Indus Valley Civilization, indicating that urban traditions continued in a modified form well after the fall of Mohenjo-daro (Haq, 1984).

Conclusion

The conflicts described in Vedic literature were rooted in internal class struggles, not foreign invasions. The Aryans were not outsiders but evolved elites within the indigenous agrarian society. Environmental factors, not military conquest, led to the decline of the Indus Valley

Civilization. The continuity of urban life through Jhukar and Jhangar cultures further disproves the notion of a sudden civilizational collapse. It is time to revise South Asian history to reflect these nuanced realities.

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Hypotheses on the Decline of the Indus Civilization

The cities of the Indus Civilization appear to have been repeatedly inhabited across different periods. Natural disasters—particularly floods in the Indus and Hakra rivers, heavy monsoonal rains, or the drying up and shifting of river courses—often led to the destruction of urban centers. Once conditions normalized, people returned and rebuilt their dwellings. They constructed new cities atop the ruins of older ones, gradually forming elevated mounds. Excavations at Mohenjo-daro, Chanhu-daro, Harappa, Amri, and Kot Diji have revealed multiple layers of settlements from different eras (Casal, 1964; Khan, 1956; Mackay, 1938).

At Amri, four distinct settlement layers were discovered. The first two layers belong to a rural culture, while the third corresponds to the urban phase of Mohenjo-daro, and the topmost

layer is associated with the Jhukar culture (Casal, 1964). Kot Diji, a post-Amri settlement, also shows evidence of repeated destruction and reconstruction. Eleven layers of habitation were found, with the earliest linked to pre-urban rural culture and the upper layers to the mature urban Indus Civilization (Khan, 1956).

Mohenjo-daro revealed seven distinct urban layers. Flooding from the Indus and runoff from surrounding hills during monsoons led to periodic destruction. After each flood, new cities were built atop the ruins. Archaeologists believe additional layers may lie beneath the waterlogged strata, possibly revealing more settlements if the saline water level is reduced (Mackay, 1938).

Sir John Marshall reported in a London newspaper that nine cities were discovered beneath layers of silt and debris at Mohenjo-daro (Mackay, 1938). Evidence of flooding was also found at Harappa and Mohenjo-daro, leading some scholars to suggest that a major flood contributed to the decline of these urban centers.

Geographer Manik Pithawala noted that the inhabitants of the Indus Valley attempted to understand the river system and mitigate seasonal floods by constructing embankments and

conducting measurements (Pithawala, as cited in Mackay, 1938).

Climate Change and Environmental Shifts

Recent archaeological findings supported by geoscience technologies suggest that environmental changes were a major factor in the decline of the Indus Civilization. According to Liviu Giosan of the Woods Hole Oceanographic Institution, climate shifts around 4,000 years ago played a critical role in the civilization's downfall (Giosan, 2012). The Indus Civilization, which spanned over one million square kilometers from the Arabian Sea to the Ganges, was larger than its contemporaries in Egypt and Mesopotamia.

Dorian Fuller of University College London corroborated Giosan's findings, attributing the decline to reduced monsoonal rainfall (Giosan, 2012). Peter D. Clift of the University of Aberdeen also supported this hypothesis, noting that decreased monsoons led to reduced agricultural productivity and the abandonment of major urban centers (Clift, 2012).

Excavations in river valleys revealed sedimentary evidence of declining monsoons,

which caused rivers to dry up and agricultural output to fall. This led to food shortages and forced populations to migrate eastward toward the Ganges Valley (Clift, 2012).

Between 2003 and 2008, Giosan and his team conducted extensive research in Pakistan, including the Arabian Sea coast, Thar Desert, and Punjab, focusing on ancient river systems like the Sarasvati-Hakra. The team included experts from the U.S., U.K., Pakistan, India, and Romania, and used satellite imagery, topographic data, and soil sampling to trace river courses and settlement patterns (Giosan, 2012).

Their findings confirmed that around 4,500 years ago, monsoonal weakening led to reduced river flows, causing settlements to be abandoned due to water scarcity and declining crop yields. This gradual decline marked the end of the urban phase of the Indus Civilization.

Disappearance of the Sarasvati-Hakra River

Giosan's team also investigated the disappearance of the Sarasvati-Hakra River. Unlike the Indus, this river did not originate directly from the Himalayas but was a monsoon-fed tributary.

Around 3,900 years ago, reduced rainfall caused the river to dry up completely (Giosan, 2012).

New Research from Cambridge University

Recent studies by Cambridge University archaeologists—including Cameron Petrie, David A. Hodell, and Yama Dixit—examined oxygen isotopes in ancient shells and sediments from the Kotla Dahar lake in Haryana, India. Their findings confirmed that climate change, particularly reduced rainfall and water availability, triggered a gradual decline in the Indus Civilization (Dixit et al., 2014).

Petrie noted that around 2000 BCE, major cities began to deteriorate due to water shortages and reduced monsoons, prompting mass migrations and the abandonment of urban centers (Petrie, as cited in Dixit et al., 2014).

Rejection of the Invasion Theory

The theory that external invasions caused the civilization's collapse—proposed by Wheeler and Stuart Piggott—has been largely refuted. Archaeologist Dr. Fazal Ahmad Khan argued against the Aryan invasion hypothesis, citing post-

Harappan layers such as Jhukar and Jhangar cultures found atop Harappan ruins (Khan, 1956).

Excavations in Bikaner revealed Grey Ware artifacts dated to around 600 BCE, lying above flood-deposited sediments and Harappan remains. A seal from Mohenjo-daro was found beneath flood layers, further supporting the flood hypothesis.

Despite these disasters, the civilization did not vanish entirely. The continuity of urban life is evident in post-Harappan cultures like Jhukar and Jhangar. Excavations at Jhukar revealed artifacts dated to 1650 BCE, and the Jhangar culture continued this legacy.

Irrigation expert M.H. Panhwar emphasized that the earlier notion of complete collapse after Mohenjo-daro's decline has been disproven. Urban centers declined at different times, while others emerged or continued to thrive. The wheel of civilization never stopped—it evolved, sometimes slowly, sometimes rapidly.

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